

Final



**ENVIRONMENTAL ASSESSMENT FOR
SHORELINE STABILIZATION
AT
LANGLEY AIR FORCE BASE, VIRGINIA**

United States Air Force

**1st Fighter Wing
November 2006**

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14. ABSTRACT The United States Air Force (Air Force), 1st Fighter Wing (1 FW) proposes to implement various methods to stabilize the shoreline at several locations along the Back River waterfront at Langley Air Force Base (AFB). This Environmental Assessment (EA) provides an analysis of the potential environmental consequences associated with the proposed action and the no action alternative, per the requirements of the National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321 et seq.).					
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ACRONYMS AND ABBREVIATIONS

1 FW	1st Fighter Wing	ROI	Region of Influence
ACHP	Advisory Council on Historic Preservation	RUL	Remaining Useful Life
AFB	Air Force Base	SAV	Submerged Aquatic Vegetation
AFI	Air Force Instruction	SHPO	State Historic Preservation Office
AICUZ	Air Installation Compatible Use Zone	SIP	State Implementation Plan
Air Force	United States Air Force	SO ₂	Sulfur Dioxide
AQCR	Air Quality Control Region	SR	State Route
AST	Aboveground Storage Tank	U.S.	United States
BASH	Bird Aircraft Strike Hazard	USACE	United States Army Corps of Engineers
CEQ	Council on Environmental Quality	USC	United States Code
CFR	Code of Federal Regulations	USEPA	United States Environmental Protection Agency
CO	Carbon Monoxide	USFWS	United States Fish and Wildlife Service
CZMA	Coastal Zone Management Act	UST	Underground Storage Tank
dBA	Decibels Measured on the A-Weighted Scale	VAC	Virginia Administrative Code
DNL	Day-Night Average Sound Level	VDEQ	Virginia Department of Environmental Quality
DoD	Department of Defense	VDHR	Virginia Department of Historic Resources
EA	Environmental Assessment	VDOT	Virginia Department of Transportation
EIAP	Environmental Impact Analysis Process	VOC	Volatile Organic Compound
ERP	Environmental Restoration Program	VWPP	Virginia Water Protection Permit
FONSI	Finding of No Significant Impact		
FONPA	Finding of No Practicable Alternative		
HQ TAC	Headquarters Tactical Air Command		
HTA	Heavier Than Air		
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning		
LTA	Lighter Than Air		
MSL	Mean Sea Level		
NAAQS	National Ambient Air Quality Standards		
NASA	National Aeronautics and Space Administration		
NEPA	National Environmental Policy Act		
NHPA	National Historic Preservation Act		
NO ₂	Nitrogen Dioxide		
NO _x	Nitrogen Oxides		
NRHP	National Register of Historic Places		
O ₃	Ozone		
OSHA	Occupational Safety and Health Administration		
Pb	Lead		
PM _{2.5}	Particulate Matter Less than 2.5 Microns in Diameter		
PM ₁₀	Particulate Matter Less than 10 Microns in Diameter		

FINDING OF NO SIGNIFICANT IMPACT/ FINDING OF NO PRACTICABLE ALTERNATIVE

NAME OF THE PROPOSED ACTION

Implementation of shoreline stabilization initiatives at several locations along the Back River waterfront at Langley Air Force Base (AFB), Virginia

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The 1st Fighter Wing proposes removal of existing riprap (concrete and asphalt rubble) along with portions of the shoreline and stabilization of the shoreline by placing proper riprap of appropriate size. In addition, the current deteriorating concrete seawall along Benedict Avenue would be removed and replaced with a new seawall. Also, native marsh land would be reestablished in suitable areas along the Back River shoreline.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Proposed Action: The Environmental Assessment provides an analysis of the potential environmental consequences associated with the proposed action and the no action alternative. Eight categories of resources were evaluated to identify potential environmental consequences. As indicated in Chapter 4.0, neither of the alternatives would result in significant impacts to any resource area.

Land Use, Transportation, and Visual Resources: The proposed project would be compatible with future land use as delineated in the Base General Plan. Land use would also remain the same for adjacent property, including the private oyster grounds. Indeed, the proposed project may increase the harvest on private oyster grounds as water quality improves. Construction-related truck traffic may lead to some degradation of base road surfaces and occasional congestion at the base's gate, however, this situation would be short term and no significant adverse impacts are anticipated. The overall effect of the shoreline stabilization project would be the successful removal of ineffective and visually unattractive hardscape shoreline structures and the restoration of the shoreline with an attractive, properly engineered seawall, riprap, and vegetative buffer.

Cultural Resources: Based on the sensitivity maps prepared for Langley AFB, locations proposed for construction lie in areas of "low sensitivity" for archaeological resources. No traditional resources have been identified at the project locations. In addition, there are no federally recognized Indian lands at Langley AFB, and no issues have been identified by federally recognized or other Indian groups in Virginia. Therefore, no significant adverse impacts to archaeological and traditional resources are expected under the proposed action. Replacement of the existing seawall would be designed in keeping with the character of the Langley Field Historic District, and once plans are available they would be submitted to the Virginia Department of Historic Resources in accordance with Section 106 of the National Historic Preservation Act. Therefore, the proposed action is not likely to have significant adverse impacts to the historic district or architectural resources.

Biological Resources: The proposed action would have a positive effect on natural resources. The project would enhance biodiversity conservation by restoring native ecosystems along the shoreline and preserving existing clumps of *Spartina* species, as stipulated in Section 2.2 of Air Force Instruction 32-7064, Integrated Natural Resources Management.

Water Resources: Once the wetland vegetation is established, the natural filtration process would enhance the quality of water adjacent to the shoreline, as compared with the filtration provided by the current riprap structure. Sediments and nutrients would be trapped within the vegetative root mass and decaying debris around the base of each plant, allowing for uptake and recycling through plant respiration. Additionally, the wetlands would buffer the shoreline against storm surge, as the native grasses would help dissipate the energy of incoming waves. Stormwater runoff from the base would flow

through the wetland vegetation along the shoreline. Existing turbid conditions would be greatly improved by the establishment of the wetland buffer. The majority of Langley AFB, including the shoreline sites, is located within the 100-year floodplain. There is no practicable alternative, however, that would not involve construction in the floodplain.

Air Quality: The concentrations of nitrogen oxides and volatile organic compounds emitted by construction equipment (track excavator, backhoe, two heavy duty dump trucks, and two pickup trucks) would be below the annual de minimis levels and would not be regionally significant. A conformity determination would not be required. Dust emissions of particulate matter produced during construction would be minimized through best management construction practices.

Hazardous Materials and Waste Management: The proposed action would not involve use of hazardous materials, and the project would not generate appreciable amounts of construction hazardous wastes. In the event of fuel spillage during construction, the contractor would be responsible for its containment, cleanup, and related disposal costs. Solid wastes resulting from the removal of existing hardscape would be minimized through the use of this material as a primary feedstock for appropriately sized riprap. Unusable materials such as reinforcing bar, asphalt, and concrete fines generated from resizing efforts would be recycled at an appropriate facility or it would be taken off-site to a permitted landfill. Air Combat Command approval would be required prior to construction on or near Environmental Restoration Program sites.

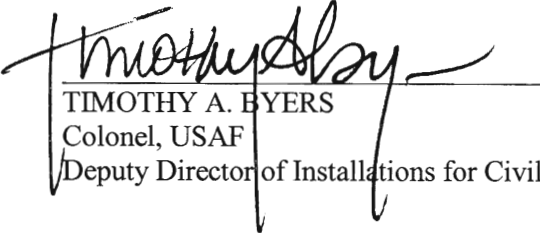
Safety: Implementation of this action would result in a short-term increase in the risks associated with construction; however, no significant consequences are anticipated. Standard construction practices, per regulations of the Occupational Safety and Health Administration, would be followed.

Noise: The proposed action would result in minor, temporary increases in localized noise levels in the vicinity of the project area during demolition and construction. This effect would be temporary and limited to daytime hours; therefore, noise impacts would be insignificant.

No Action Alternative: Under the no action alternative, the shoreline would not be stabilized and would continue to erode. As long as erosion occurs, Langley AFB will lose waterfront property, and the integrity of the seawall and shoreline area and nearshore recreational facilities will continue to be threatened. The no action alternative would result in no new wetlands. Nearshore water quality would continue to degrade due to the turbidity of the water from existing erosion and siltation.

CONCLUSION

Based on the analysis described in the Environmental Assessment, which is hereby incorporated by reference, I find that no significant impact is anticipated from implementation of either the proposed action or the no action alternative. Therefore, issuance of a finding of no significant impact (FONSI) is warranted, and an environmental impact statement is not required. Pursuant to Executive Orders 11988 and 11990, the authority delegated in Secretary of the Air Force Order 791.1, and taking the above information into account, I find that there is no practicable alternative to this action and that the proposed action includes all practicable measures to minimize harm to the environment.


TIMOTHY A. BYERS
Colonel, USAF
Deputy Director of Installations for Civil Engineers (A7)

12 FEB 07

Date

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1.0 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The United States Air Force (Air Force), 1st Fighter Wing (1 FW) proposes to implement various methods to stabilize the shoreline at several locations along the Back River waterfront at Langley Air Force Base (AFB). This Environmental Assessment (EA) provides an analysis of the potential environmental consequences associated with the proposed action and the no action alternative, per the requirements of the National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321 et seq.). This document was prepared in accordance with the following:

- Requirements of NEPA
- Regulations established by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] 1500-1508)
- 32 CFR Part 989, et seq., *Environmental Impact Analysis Process*

This EA also provides an evaluation of potential coastal zone impacts pursuant to National Oceanic and Atmospheric Administration Coastal Zone Management regulations (15 CFR Part 930). Consequently, this EA serves as coastal consistency determination documentation with respect to implementation of the proposed action or the no action alternative.

Section 1.2 provides background information that briefly describes Langley AFB. The purpose and need for the proposed action are described in Section 1.3. Section 1.4 summarizes of permits and regulatory requirements that may apply to the proposed action.

Chapter 2.0 details the proposed action and the no action alternative. Chapter 3.0 describes the existing conditions of various environmental resources that could be affected if the proposal were implemented. Chapter 4.0 describes how those resources would be affected by implementation of the proposed action or the no action alternative. Chapter 5.0 addresses the cumulative effects of the proposed action, as well as relevant past, current, and future actions implemented in the region of influence (ROI) of the proposed action.

1.2 BACKGROUND

Langley AFB is located approximately 175 miles south of Washington, D.C., near the south end of the lower Virginia Peninsula on the Back River, a tributary of the Chesapeake Bay. Langley AFB is situated in the Hampton Roads Standard Metropolitan Statistical Area, in the city of Hampton, Virginia. Other cities in the area include Newport News, Poquoson, Norfolk, and Portsmouth (Figure 1-1). As shown in Figure 1-2, the main base occupies 2,883 acres between the northwest and southwest branches of the Back River.

Figure 1-1. Map of Langley AFB, Virginia

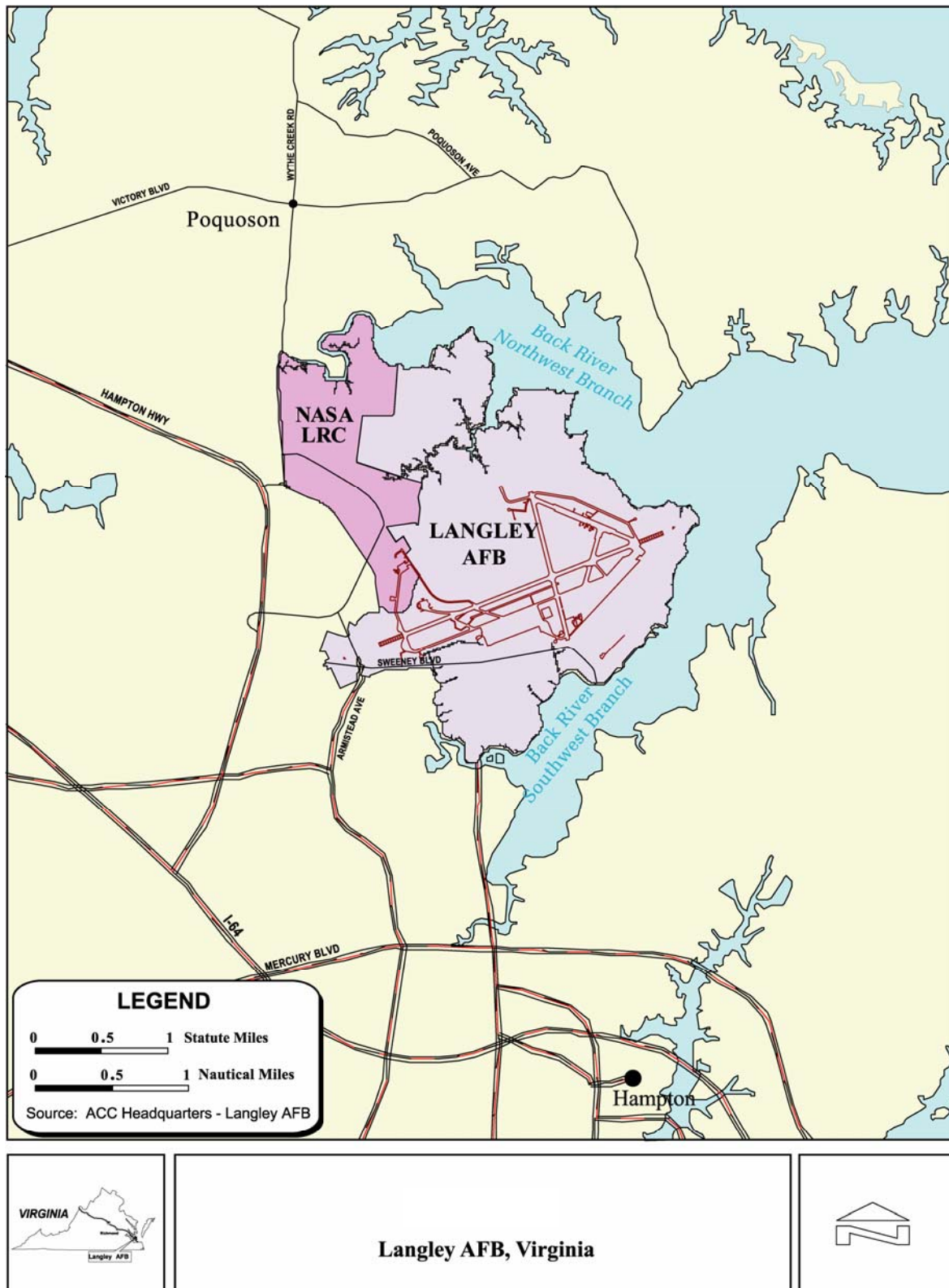
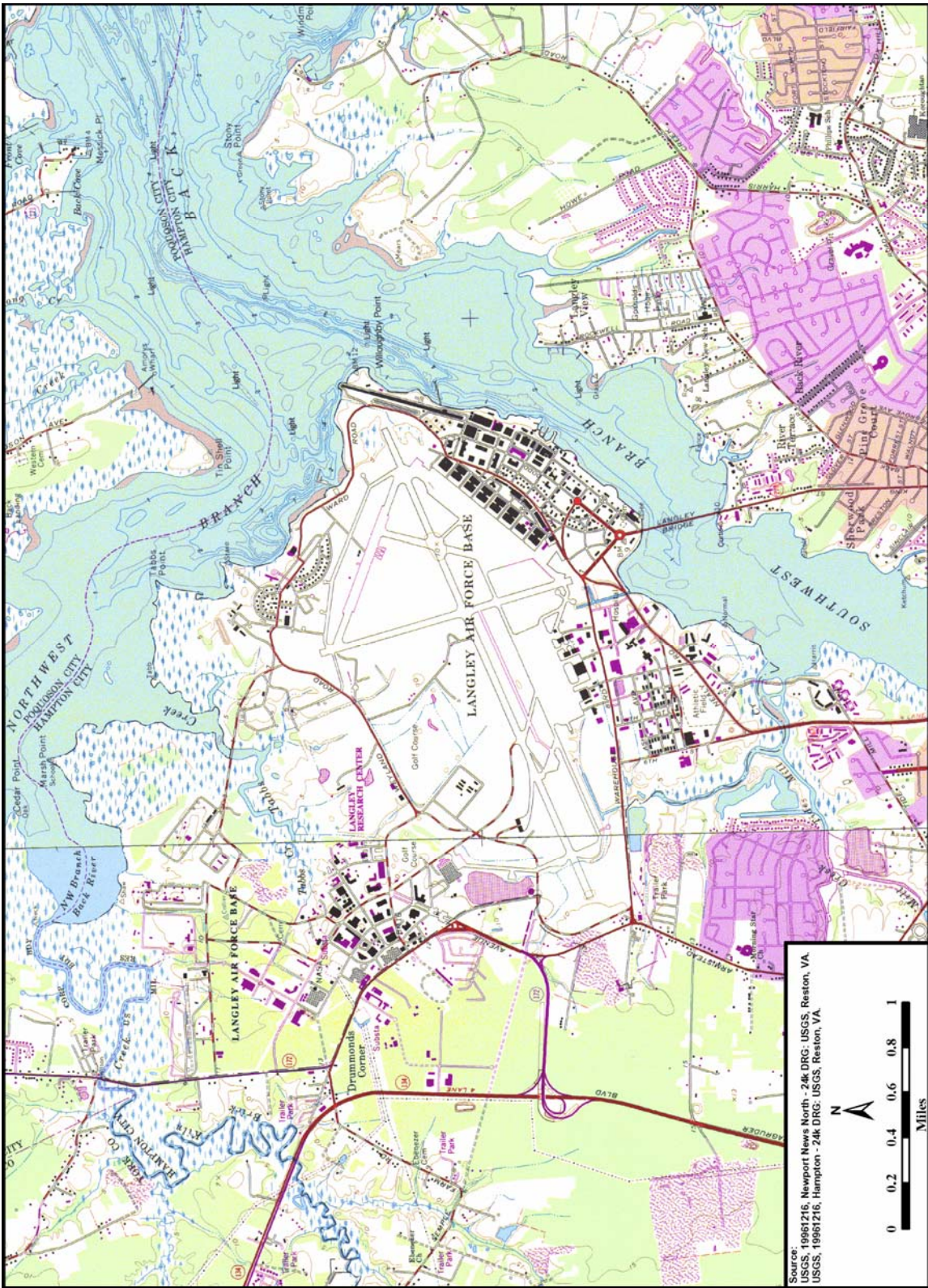


Figure 1-2. Site Map



Langley AFB is headquarters for Air Combat Command and home of the 1 FW. Air Combat Command is one of eight major commands in the Air Force and is responsible for organizing, equipping, training, and maintaining combat-ready forces at the highest level of readiness. The primary mission of Langley AFB is to provide air operational support to a broad spectrum of aircraft in both peacetime and combat environments. General goals of the base are to sustain the resources and relationships deemed appropriate to pursue national interests, and provide for the command, control, and communications necessary to execute the missions of the Air Force, Air Combat Command, and the 1 FW.

As part of the development of Langley AFB in the 1930s, a seawall was constructed along a portion of the Southwest Branch of the Back River with extensive fill behind the seawall to provide additional area for base construction. The use of rubble for riprap was a standard practice at the base and in the region up through the 1960s. During the past 20 years, Langley AFB has restored and stabilized small segments of its shoreline adjacent to the Northwest and Southwest Branches of Back River using noninvasive, emergent vegetation such as saltmarsh cordgrass (*Spartina alterniflora*) and saltmeadow cordgrass (*Spartina patens*).

Langley AFB previously prepared an environmental assessments for the stabilization of the shoreline in the vicinity of the lighter-than-air (LTA) area pool and pump station (Air Force 2001a) and wetlands restoration at Memorial Park (Air Force 1999). Work at the LTA area included construction of a revetment to stabilize approximately 600 feet of shoreline and establishment of a narrow fringe marsh of saltmarsh cordgrass. The Memorial Park project included stabilization of approximately 1,300 feet of shoreline and establishment of a fringe marsh consisting of saltmarsh cordgrass and saltmeadow cordgrass.

1.3 PURPOSE AND NEED

1.3.1 Purpose

The purpose of the proposed action is to stabilize the shoreline on the Back River at Langley AFB. The erosion rate along Langley's shoreline ranges from 1 to 2 feet annually on the western end of the project area and up to 6 inches along the remaining shoreline. The purpose of this project is to reduce or stop the deterioration and loss of Air Force facilities and infrastructure that protect the property. Such deterioration would ultimately affect the Air Force mission by leading to a failure of the seawall or shoreline erosion that leads to the loss of valuable land. Additionally, this project would result in an overall improvement in the water quality of the Back River, thus supporting the Air Force's commitment to the goals of the Chesapeake Bay Preservation Act and Management Regulations.

Figure 1-3. Restored Shoreline (background) at LTA Pool Area Contrasted to Non-enhanced Shoreline (foreground)



The 1 FW proposes removal of existing riprap (concrete and asphalt rubble) along portions of the base's shoreline and stabilization of the base's shoreline with the placement of properly sized riprap. In addition, the current deteriorated concrete seawall along Benedict Avenue would be removed and replaced with a seawall that blends with the architectural character of the Langley Field Historic District. Also, native marsh land would be reestablished in suitable areas along the Back River shoreline.

1.3.2 Need

Langley AFB has an ongoing problem with shoreline erosion. This erosion has occurred over the years due to several factors:

- Inappropriate size and physical makeup of riprap (hardscape) materials
- Lack of proper geotextile filter fabric liner
- Lack of native vegetative buffers indigenous to the Back River ecosystem

The erosion rate along Langley's shoreline ranges from 6 inches per year to more than 1 foot per year. The erosion has undermined the integrity and long-term stability of the shoreline. As

shown in Figure 1-4, previous stabilization attempts, such as placing discarded pieces of concrete and roadway material along the shoreline, were largely inadequate and have not mitigated the erosion problem

Figure 1-4. Example of Inappropriately Sized/Randomly Placed Materials



Water resources along the shoreline continue to be impacted due to erosion and loss of native vegetation. Erosion and associated sedimentation has increased turbidity locally near the shoreline and negatively impacts SAV, fisheries, and shellfish resources. Conversely, healthy vegetation combats erosion by increasing the filtration of sediment and by holding soil in place. Reduced erosion and subsequent improvements to natural vegetation would contribute to ecosystem and water quality improvements.

The Back River is a tributary to the Chesapeake Bay, and as such, is a high priority of state and federal agencies for preservation and ecosystem enhancement. The Air Force has made a long-term commitment to improving water quality, maintaining and protecting shoreline areas, and assisting with the implementation of goals and strategies established in the Chesapeake Bay Preservation Act and Management Regulations.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The 1 FW proposes to implement several shoreline stabilization initiatives at various locations along the Back River waterfront at Langley AFB, Virginia. The three elements of the proposed action are described below, and Figure 2-1 depicts the location of the proposed action. In addition to the proposed action, this EA evaluates a no action alternative.

2.1 PROPOSED ACTION AND ALTERNATIVES

2.1.1 Proposed Action

The Proposed Action consists of three elements. The first element is the replacement of the reinforced concrete seawall along Benedict Avenue. The existing seawall, built in the 1930s, is showing signs of failure with increasing age and deterioration of the structure. The seawall received substantial damage from Hurricane Irene in October 1999. The first part of the proposed action would include the installation of approximately 3,000 feet of properly engineered seawall, filter cloth, and appropriate tiebacks installed in the seawall. The new seawall would be installed immediately channelward of the existing seawall. While wave and tidal energy in this area is less pronounced than other parts of the Langley shoreline that are more directly exposed to tidal and wave energy, a properly designed and constructed seawall should be adequate to prevent further erosion in this area. (See Figure 2-2 for the location of the seawall at Benedict Avenue [highlighted in pink].)

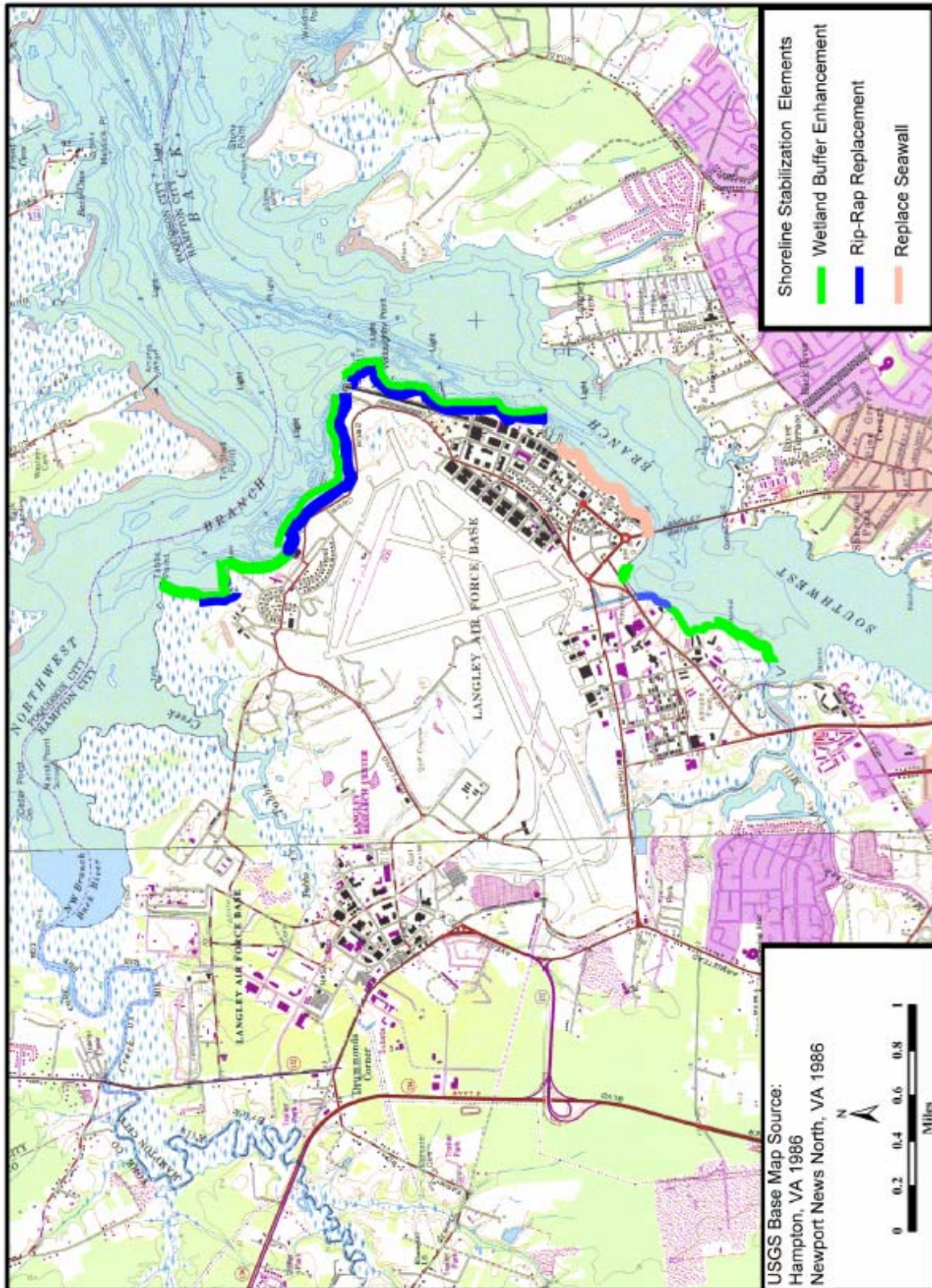
The existing seawall is a contributing element to the Langley Field Historic District, and any replacement project would be designed to conform to the Langley Field Historic District guidelines. The design, when completed, would be submitted to the Virginia State Historic Preservation Office (SHPO) in accordance with Section 106 of the National Historic Preservation Act for review and consultation.

The second element would be the removal of existing pieces of concrete and roadway material along the shoreline, the installation of a geotextile liner, and resizing the concrete for reuse as base material for a 2-foot-thick Class II revetment. The existing concrete pieces along approximately 10,000 feet of shoreline would be collected and resized (by using the backhoe to drop pieces of concrete a short distance so as to break them into two or three pieces) on-site. Unusable materials, such as reinforcing bar, asphalt, and concrete fines generated from resizing efforts, would be taken off-site by the construction contractor to an approved landfill or recycling facility.

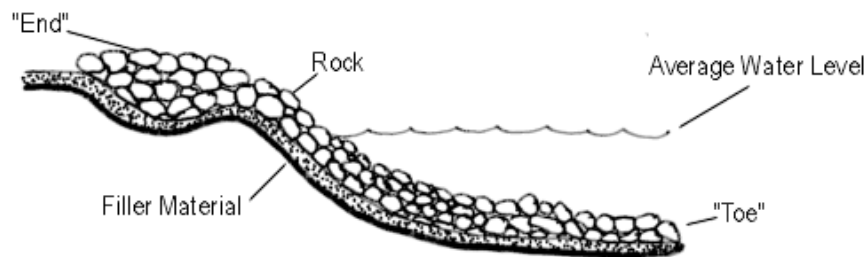
Figure 2-1. Existing Seawall on Southwest Branch Back River



Figure 2-2. Location of Shoreline Stabilization Initiatives



Also, the second element would include regrading the shoreline and installing a geotextile liner along the bank. Figure 2-2 shows the areas where this initiative would be applied (highlighted in blue). The liner would relieve hydrostatic pressures inside the embankment and distribute the weight of the riprap. The geotextile liner would also prevent settling and prevent fine materials in the embankment from being pulled through the riprap by wave action. Over the liner, a layer of the resized concrete would be used as the base material for the revetment for shoreline stabilization. On top of the base material, a 2-foot layer of Class II, VDOT (150- to 200-pound angular granite pieces of rock) riprap would be installed, completing the revetment. The total amount of riprap to be installed along the 10,000 feet of shoreline over the lifetime of the project is estimated to be approximately 264,000 cubic yards. A typical cross section of the riprap installation is shown in the graphic below.



Typical Riprap Installation

Due to the high tidal wave energy experienced at these locations, erosion is more substantial, requiring the construction of properly designed and constructed riprap revetment as shown in Figure 2-3.

The third element of the proposed action would involve planting cordgrass (*Spartina*) along the Back River shoreline. (See Figure 2-2 for planting locations [highlighted in green].) Large areas of smooth cordgrass (*Spartina alterniflora*) and saltmeadow cordgrass (*Spartina patens*) vegetation would be planted to substantially increase the total area of wetlands along the shoreline, as shown in Figure 2-4. Approximately 3 acres of new wetlands would be established as a result. Grading would be required along the shoreline to achieve bank stabilization where existing undercuts and rill erosion have gouged out the bank. Sloped contours at a 3:1 ratio would extend approximately 30 feet wide for a length of 600 feet. The remaining 700 linear feet of shoreline would be graded at a steeper grade of 2:1 ratio, approximately 15 feet in width.

The installation of wave attenuators/breakwaters would be considered throughout the planning and design of this project, as shown in Figure 2-5. Though increased native vegetation along the shoreline is desirable and consistent with the Wing's Natural Resources Management Goals (as stated in the Integrated Natural Resources Management Plan [Air Force 1998a]), the creation of wetlands, and other wildlife attractants, must be balanced against the potential bird aircraft strike hazard (BASH) issues associated with flightline activities. Only those shoreline areas that would not provide additional BASH dangers would be considered for planting, as the safety of military aviators is of paramount concern.

Figure 2-3. Typical Revetment Section

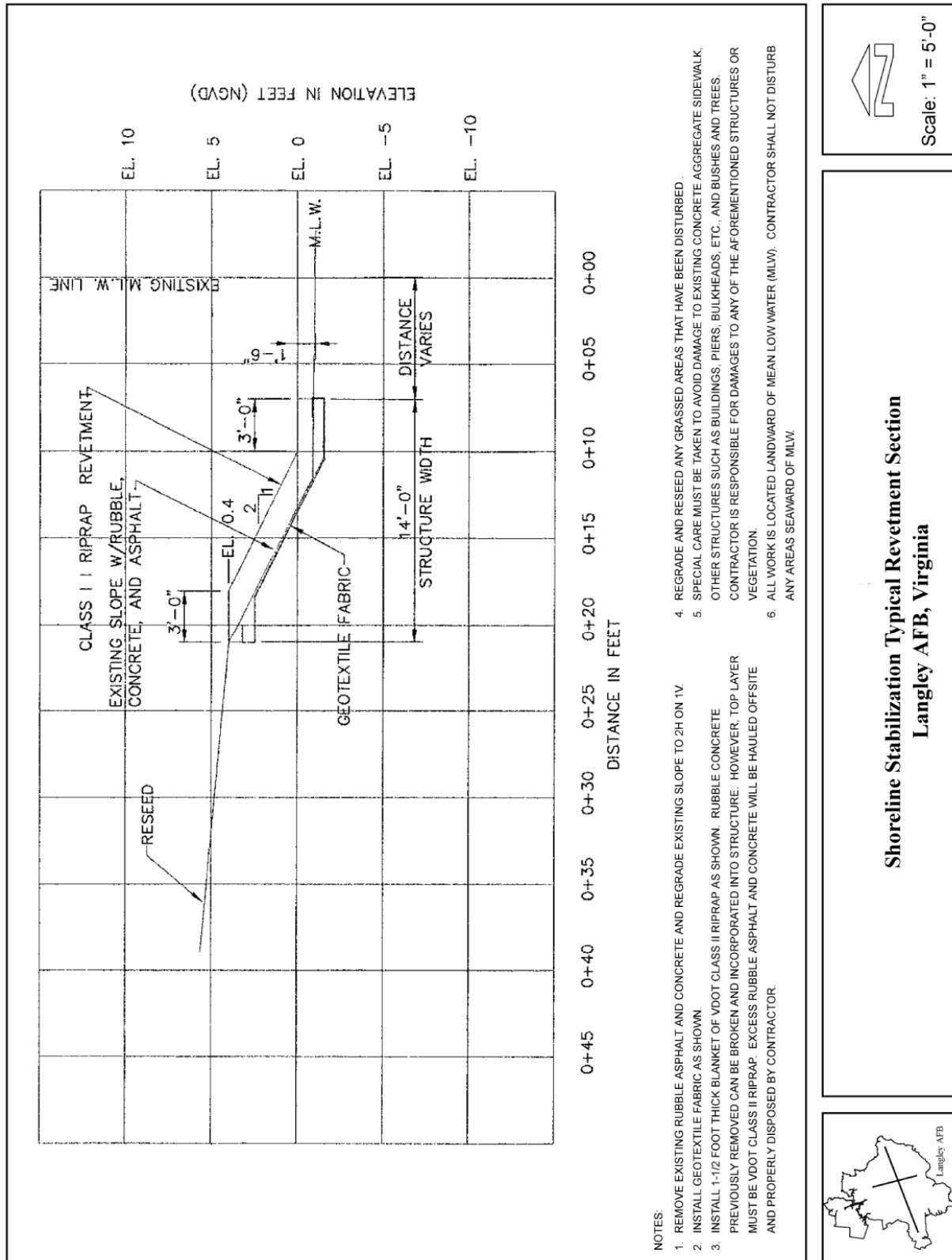


Figure 2-4. Proposed Marsh Grass Planting

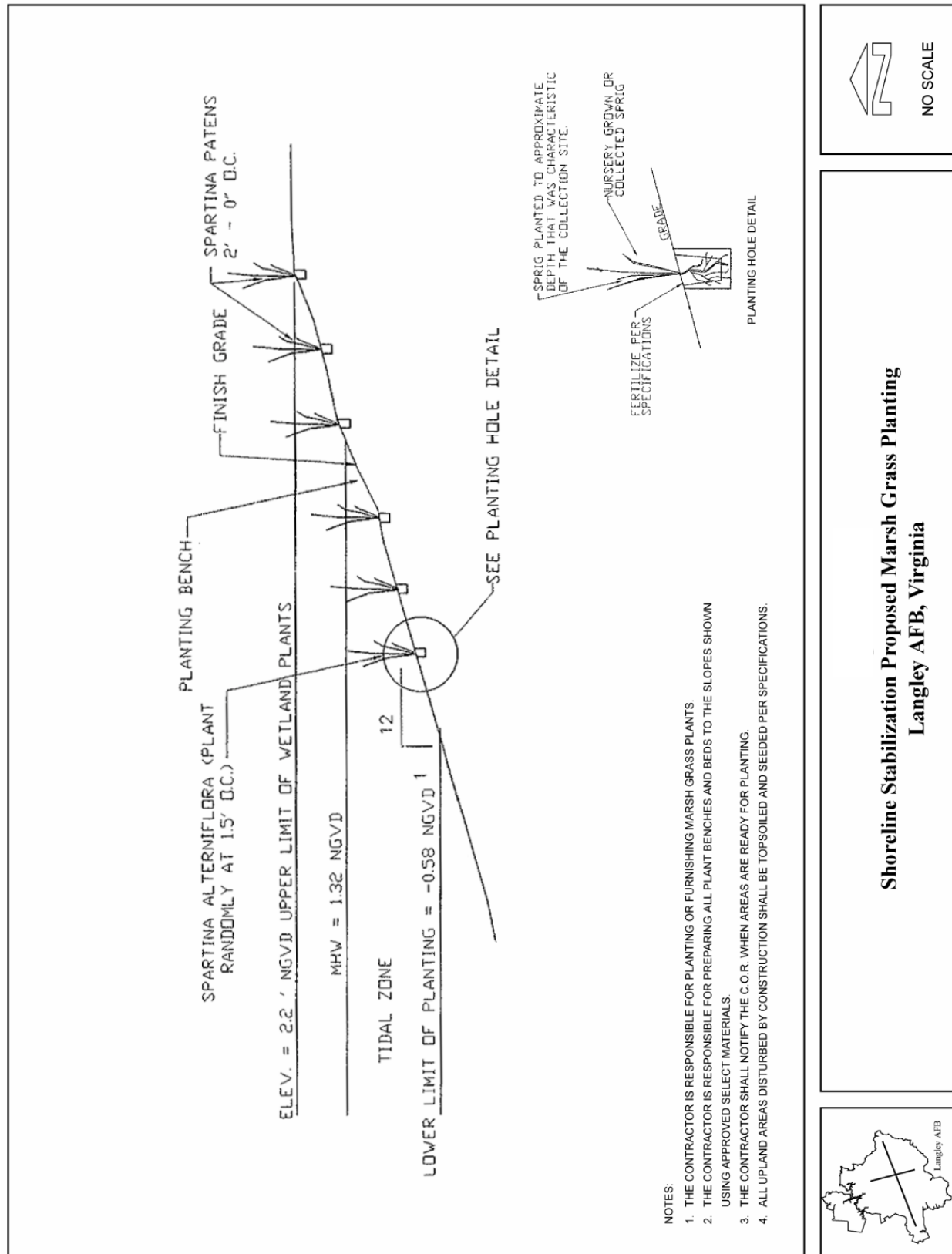
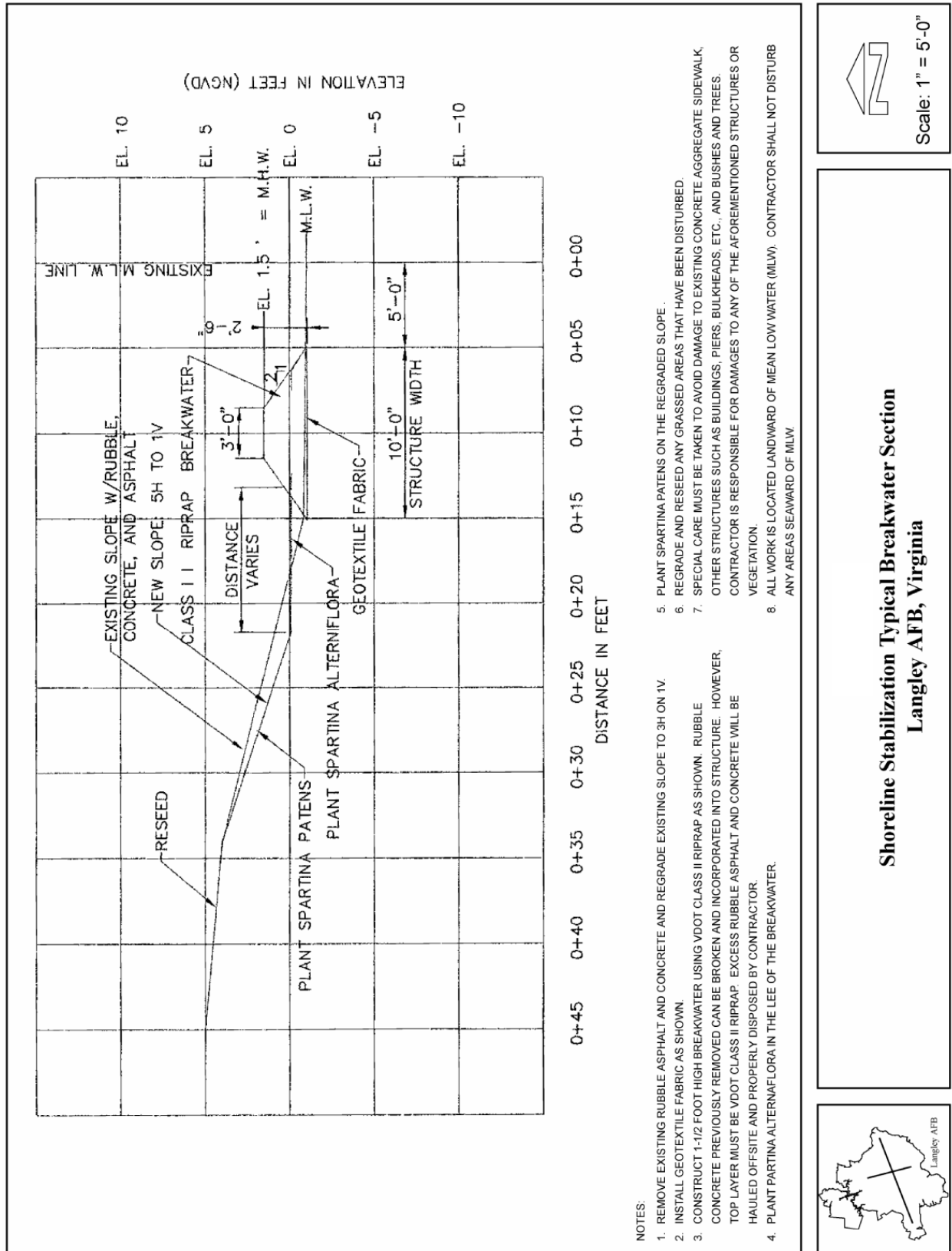


Figure 2-5. Typical Breakwater Section



2.1.2 No Action Alternative

Under the no action alternative, the shoreline would not be stabilized and would continue to erode. As long as erosion occurs, Langley will lose residential waterfront property, and the integrity of the seawall and shoreline area and nearshore recreational facilities will continue to be threatened. The no action alternative would not result in any effects due to construction in wetlands or waters of the United States, but no new wetlands would be added. Nearshore water quality would continue to degrade due to the turbidity of the water from existing erosion and siltation.

2.1.3 Selection Criteria

Selection criteria for implementation of the stabilization methods chosen are as follows:

- Magnitude of wave and tidal energy at the shoreline
- Viability/desirability/precedence of existing stabilization method (the seawall would be replaced with another seawall, not a wetland stand)
- Effectiveness of proposed method
- Life cycle of method chosen
- Retention, wherever possible, of existing aquatic vegetation
- Avoidance of creating additional BASH potential
- Annual maintenance cost for selected method

The criteria and their applicability to the alternatives for stabilization of the shoreline are shown in Table 2-1.

Table 2-1. Comparison of Alternatives to Criteria

	Wave and Tidal Action at the Shoreline	Viability/Desirability/Precedence of Chosen Method	Effectiveness	Life Cycle	Retention of Existing Vegetation	Avoidance of BASH Creation	Holding of Soils in Place	Annual Maintenance
Proposed Action	√	√	√	√	√	√	√	√
No Action Alternative				√	√			
Alternative 1	√	√			√	√	√	
Alternative 2	√	√			√	√	√	
Alternative 3	√					√	√	

2.2 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

In accordance with both the CEQ and Air Force implementing regulations for NEPA, alternatives to the proposed action must be identified. Under the AF regulations, alternatives may be eliminated from further analysis based on reasonable standards, so long as those standards are not so narrow as to unnecessarily limit the alternatives (32 CFR Part 989.8[b and c]). Reasonable alternatives have been identified based on ability to stabilize the shoreline. No alternatives were identified during the scoping process. Discussion of each alternative is presented below.

2.2.1 Alternative 1: Installation of Offshore Breakwaters Only

Under Alternative 1, breakwaters (trapezoidal riprap structures) would be constructed offshore in both the Southwest and Northwest Branches of the Back River. The breakwaters would control the tidal wave action experienced along the shore by dissipating energy from storm surges and, over time, naturally build a sediment substrate to support tidal marsh vegetation. The breakwaters would be aligned to provide the greatest area of shoreline protection available from the breakwaters. However, this alternative would not be appropriate for all areas due to wave energy and topography. It would not provide protection for all areas of the shoreline and may obstruct navigation in some areas. It would not address siltation and stormwater runoff. Construction of the breakwaters would incur higher costs, since the required height of the structures would be greater in some areas due to depth of bottom. No replacement of the seawall would be considered under this alternative.

2.2.2 Alternative 2: Installation of Revetment, Breakwaters, and Marsh Development Only

Under Alternative 2, breakwaters would be constructed such that the greatest amount of shoreline possible is protected from storm events, which have historically resulted in the most destructive wave energy. Large areas of smooth cordgrass (*Spartina alterniflora*) and saltmeadow cordgrass (*Spartina patens*) vegetation would be planted to substantially increase the total area of wetlands along the shoreline.

However, this alternative would not be appropriate for all areas due to strong tidal flows, the nature of bottom sediments, and navigational needs. It would not protect all shoreline exposed to various degrees of wave energy and tidal actions, thus allowing erosion to continue in the unimproved areas. No replacement of the seawall would be considered under this alternative.

2.2.3 Alternative 3: Installation of Seawall Only

Under Alternative 3, a concrete seawall would be constructed in the entire project area. A properly engineered seawall would consist of a properly engineered seawall, filter cloth, and appropriate tiebacks installed in the seawall.

This alternative would only be effective where wave and tidal energy is less pronounced than other parts of the shoreline. It would not provide for creation of wetlands and would require

substantial backfilling in order to provide the necessary structural integrity. Failure of the seawall could occur over time in areas exposed to high wave energy and storm surges.

2.3 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

The Air Force Environmental Impact Analysis Process (EIAP) includes the review of all information pertinent to the proposed action and reasonable alternatives and provides a full and fair discussion of potential consequences to the natural and human environment. The process includes involvement with the public and agencies to identify possible consequences of an action, as well as the focusing of analysis on environmental resources potentially affected by the proposed action or alternatives.

2.3.1 Public and Agency Involvement

Through the scoping process (32 CFR Part 989.18), the Air Force obtained information regarding pertinent environmental issues the agencies felt should be addressed in the environmental impact analysis. Executive Order 12372, *Intergovernmental Review of Federal Programs*, requires intergovernmental notifications prior to making any detailed statement of environmental impacts. Through the process of Interagency and Intergovernmental Coordination for Environmental Planning (IICEP), the proponent must notify concerned federal, state, and local agencies and allow them sufficient time to evaluate potential environmental impacts of a proposed action. Agency consultations were undertaken with regard to biological and cultural resources, primarily for compliance with the Endangered Species Act and with the National Historic Preservation Act (NHPA). Appendix A identifies agencies contacted as part of the IICEP process and includes agency responses.

The Air Force published a newspaper advertisement on May 1, 2006, in *The Daily Press*, announcing the availability of the Draft EA for public review at the Langley AFB library, in libraries in the cities of Hampton and Poquoson, and in the York County Library. A copy of the newspaper advertisement is included in Appendix A. No comments were received from the public during the 30-day review period.

Copies of the Draft EA were provided to the Virginia Department of Environmental Protection Office of Environmental Review to allow for review by appropriate state and local agencies. No comments were received that required additional analysis that would have resulted in changes to the impacts identified in the Draft EA. This Final EA would support the signing of a FONSI/Finding of No Practicable Alternative (FONPA).

2.3.2 Regulatory Compliance

This EA has been prepared to satisfy the requirements of NEPA (42 USC 4321-4347) and CEQ Regulations for Implementing the Procedural Provisions of NEPA. The intent of NEPA is to promote environmentally well-informed federal decisions. In addition, this document was prepared in accordance with 32 CFR Part 989, et seq., *Environmental Impact Analysis Process*, which implements Section 102 (2) of NEPA and regulations established by the CEQ (40 CFR 1500-1508).

2.3.3 Permit Requirements

Table 2-2 summarizes applicable federal, state, and local permits under the proposed action.

Table 2-2. Environmental-Related Permitting

<i>Type of Permit or Regulatory Requirement</i>	<i>Requirement</i>	<i>Agency</i>
Endangered Species Act	Required to consult on impacts of project implementation on federally listed or proposed threatened and endangered species	U.S. Fish and Wildlife Service
Coastal Consistency Determination	Determine consistency with enforceable policies of Commonwealth's Coastal Zone Management Program	Commonwealth of Virginia, Department of Environmental Quality
Clean Water Act Section 404	Required for authorizing fill within wetlands or water of the United States	U.S. Army Corps of Engineers, Norfolk District, Virginia Department of Environmental Quality, and Virginia Marine Resources Commission
National Historic Preservation Act (NHPA) Section 106	Consultation with State Historic Preservation Office (SHPO) and Notification to Advisory Council on Historic Preservation (ACHP)	Virginia Department of Historic Resources (VDHR)
Virginia Water Protection Permit (Section 401 of Clean Water Act and 9 Virginia Administrative Code [VAC] 25-210)	Water Quality Certification for discharges from construction activities in State Waters	Virginia Department of Environmental Quality (VDEQ)

In addition to this EA being prepared for the decision maker and the interested public, it is also a tool for Air Force personnel to ensure these projects, if implemented, would be compliant with relevant and appropriate regulatory requirements.

2.4 COMPARISON OF ALTERNATIVES

Table 2-3 summarizes the potential environmental impacts of the proposed action and the no action alternative, based on the detailed impact analyses presented in Chapter 4.0. In no instance would the potential environmental consequences be significant under the proposed action.

**Table 2-3. Summary of Potential Environmental Impacts of
Proposed Action and No Action Alternative**

<i>Resources</i>	<i>Proposed Action</i>	<i>No Action Alternative</i>
Land Use, Transportation, and Visual Resources	<p>The project, which occurs primarily on federal property, would as a matter of comity, be completed as much as possible as to be consistent with the Chesapeake Bay Preservation Act and Management Regulations.</p> <p>Construction-related truck traffic may lead to some degradation of base road surfaces and occasional congestion at the base's gate; these effects would be short term and not significant.</p> <p>Shoreline stabilization initiatives would improve the visual character of Langley AFB's waterfront.</p>	No change in land use status, transportation or visual resources.
Cultural Resources	<p>Based on the sensitivity maps prepared for Langley AFB, the locations proposed for construction lie in areas of "low sensitivity" for archaeological resources.</p> <p>No impacts to traditional resources are expected.</p> <p>The seawall would be designed in keeping with the character of the historic district, and plans for the new seawall would be submitted to the Virginia Department of Historic Resources for review and comment.</p> <p>No significant adverse effects are anticipated.</p>	<p>No change to historic architectural resources, archeological resources, or traditional resources.</p> <p>Existing cultural resources would continue to be managed in accordance with federal laws and Air Force regulations.</p>
Biological Resources	The project would have a positive effect on natural resources by restoring native ecosystems along the shoreline and preserving existing clumps of <i>Spartina</i> species.	No change to biological resources.
Water Resources	Once the wetland vegetation is established, the natural filtration process would enhance the quality of water adjacent to the shoreline, as compared with the filtration	No change in current operations and no change in water resources.

Table 2-3. Summary of Potential Environmental Impacts of Proposed Action and No Action Alternative (cont'd)

	<p>currently provided by the riprap structure. Sediments and nutrients would be trapped within the vegetative root mass and decaying debris around the base of each plant. Nutrients would be taken up and recycled through natural plant respiration. Additionally, the wetlands would buffer the shoreline against storm surge, as the native grasses would dissipate the energy of any wave action.</p> <p>Stormwater runoff from the base would flow through the wetland vegetation along the shoreline. Existing turbid conditions would be greatly improved by the establishment of the wetland buffer.</p>	
Air Quality	Air emissions from construction activities would be below the annual de minimis levels and would not be regionally significant. A conformity determination would not be required.	No change in current operations; no changes in air quality.
Hazardous Materials and Waste Management	No anticipated use of hazardous materials or generation of construction hazardous wastes. In the event of fuel spillage during construction, the contractor would be responsible for its containment, cleanup, and related disposal costs. Air Combat Command approval would be required prior to construction on or near Environmental Restoration Program sites.	No change in use of hazardous materials or generation of hazardous waste.
Safety	A short-term increase in the risks associated with construction; however, no significant consequences are anticipated.	No change in current operations; no increase in safety consequences.
Noise	Minor, temporary increases in localized noise levels near the project area during demolition and construction would be limited to daytime hours and not be significant.	No change in base noise levels.

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3.0 AFFECTED ENVIRONMENT

This chapter describes relevant existing environmental conditions at Langley AFB for resources potentially affected by the proposed action and the no action alternative described in Chapter 2.0. In compliance with guidelines contained in the NEPA and CEQ regulations, the description of the existing environment focuses on those environmental resources potentially subject to impacts. These resources include:

- Land Use, including Transportation and Visual Resources
- Cultural Resources
- Biological Resources
- Water Resources
- Hazardous Materials and Waste Management
- Safety
- Noise
- Air Quality

The expected geographic scope of potential impacts, known as the region of influence (ROI), is defined for each resource analyzed.

3.1 RESOURCES ELIMINATED FROM DETAILED CONSIDERATION

Several resources were not evaluated in this EA because it was determined during scoping that implementation of the proposed action is unlikely to affect them. These resources include: airspace, environmental justice, underground and above ground storage tanks, asbestos and lead based paint and socioeconomics. The reasons why each resource has been eliminated from further consideration in this EA are provided below.

Airspace. Airspace was eliminated from further consideration, since neither the proposed action nor the no action alternative would impact aircraft operations or modifications to airspace.

Environmental Justice. Environmental justice concerns the disproportionate effect of a federal action on low-income or minority populations. The existence of disproportionately high and significant impacts depends on the nature and magnitude of the effects identified for each of the individual resources. If implementation of the proposed action or no action alternative could significantly affect any people, these effects would have to be evaluated for how they adversely or disproportionately affect low-income or minority communities. Because no significant effects would result from the proposed action or the alternatives, neither minority nor low-income groups would be affected disproportionately. Therefore, environmental justice issues were eliminated from further analysis.

Underground Storage Tanks (USTs)/Aboveground Storage Tanks (ASTs). Based on consultation with Langley's base UST/AST Manager, there are no USTs/ASTs at the proposed shoreline restoration sites.

Asbestos and Lead-Based Paint Management. No materials containing asbestos or lead-based paint would be used for this project. All existing riprap materials are assumed to be free of those materials, since they are composed mainly of concrete rubble from materials not normally containing an asbestos/cement mixture (such as old drinking water and stormwater pipes).

Socioeconomics. The shoreline stabilization projects could take place over several months, possibly in separate years, spreading out the potential effects over time. Base employment and base housing would not be impacted by the proposal. A minimal amount of off-base contracts would be awarded as a result of this project. Thus, socioeconomic impacts would be minimal and have therefore been eliminated from further consideration.

3.2 LAND USE, TRANSPORTATION, AND VISUAL RESOURCES

3.2.1 Definition of the Resource

The attributes of land use addressed in this analysis include land use, transportation, and visual resources. Land use focuses on general land use patterns, as well as management plans, policies, ordinances, and regulations. These provisions determine the types of uses that are allowable and identify appropriate design and demolition and construction standards to address specially designated or environmentally sensitive areas. Transportation addresses roads and vehicle circulation. Visual resources are identified as the natural and manufactured features that constitute the aesthetic qualities of an area. The ROI for land use resources consists of Langley AFB.

3.2.2 Existing Conditions

LAND USE

Land uses on Langley AFB are grouped by function in distinct geographic areas. For example, aircraft operations and maintenance facilities are located in the southern portion of the base. The residential areas on base are located along the Back River in the southeastern and northeastern portions of the base.

Adopted plans and programs guide land use planning for Langley AFB. Base plans and studies present factors affecting both on- and off-base land use and include recommendations to assist on-base officials and local community leaders in ensuring compatible development. The Langley General Plan (Air Force 2003) provides an overall perspective concerning development opportunities and constraints. Area development plans, part of the General Plan, provide focused information on the future organization and circulation of personnel, buildings, and equipment within portions of the base.

The base's Integrated Natural Resource Management Plan (Air Force 1998a) is used to coordinate natural resource management. Langley's Urban Forest Inventory Review and Management Plan (Davey Resource Group 1997) is an important component of this plan. Trees

are an integral component of the base's urban environment, with their shade and beauty contributing to the quality of life and moderating the hard appearance of concrete structures and streets. Trees also help stabilize the soil by controlling wind and water erosion, reducing noise levels, and cleansing pollutants from the air. Trees also provide significant economic benefits. Several studies have shown that properly placed trees provide shade and act as windbreaks, helping to decrease energy consumption. Trees return overall benefits and value far in excess of the time and money invested in them for planting, pruning, care, and removal. Langley AFB officials have recognized these benefits and realize the need to protect their investment with a comprehensive, urban forest management program.

The Coastal Zone Management Act (CZMA) was enacted to develop a national coastal management program that comprehensively manages and balances competing uses of land impacts to any coastal use or resource. The CZMA federal consistency requirement (CZMA Section 307 and 15 CFR Part 930 C) mandates that federal agency activities be consistent, to the maximum extent practicable, with the policies of a state management program. The federal consistency requirement applies when any federal activity, regardless of location, affects any land or water use or natural resource of the coastal zone. The question of whether a specific federal agency activity may affect any natural resource, land use, or water use in the coastal zone is determined by the federal agency.

The Virginia Department of Environmental Quality (VDEQ) oversees activities in the coastal zone of the commonwealth through a number of enforceable programs. In reviewing this proposal, VDEQ may require agencies to coordinate with its specific divisions or other agencies for consultation or to obtain permits; it also may comment on environmental impacts and mitigation. VDEQ enforceable programs and policies pertain to fisheries management, subaqueous lands management, wetlands management, dunes management, non-point-source pollution control, point-source pollution control, shoreline sanitation, air pollution control, and coastal lands management. The Chesapeake Bay Local Assistance Department regulates activities in the Chesapeake Bay Resource Management Areas and Resource Protection Areas.

TRANSPORTATION

Langley AFB is accessed from Interstate 64 (I-64) via Armistead Avenue to the west of the base, and from Mercury Boulevard (United States [U.S.] Route 258/Virginia State Route [SR] 32), via LaSalle Avenue (SR 167) or King Street (SR 278). Langley AFB has a network of streets that provide access to all base facilities. Nealy Avenue begins at the Main Gate and continues northeast through the installation. Sweeney Boulevard is the primary east-west corridor linking directly to the West Gate at Armistead Avenue and has four lanes from the gate to the intersection with Nealy Avenue/Hammond Avenue. Construction is underway to widen Sweeney Boulevard to four lanes from Elm Street to the West Gate. The combination of Ward Road, Clarke Avenue, Weyland Road, and Lee Road compose the "base perimeter road."

VISUAL RESOURCES

Langley AFB is located in the city of Hampton near the southern end of the lower Virginia Peninsula, between the northwest and southwest branches of the Back River, a branch of the Chesapeake Bay. The base is in the Coastal Plain physiographic province on Hampton Flat, a

nearly flat plain that gently slopes toward the east, with elevations between 5 and 11 feet above mean sea level (MSL).

The main base occupies 2,883 acres of the total site. The largest structures on base are the aircraft operations and maintenance facilities located in the southern portion of the base. A number of older buildings on base, such as the Albert Kahn-designed hangars, give the base a character reflecting its history as an important air base from the beginning of the aviation era. The National Aeronautics and Space Administration (NASA) operates a facility complex situated in the northwestern, southern, and southeastern portions of the base. The large wind tunnels and aeronautical test equipment that compose the NASA facility resemble a large industrial area.

The existing shoreline is ragged and eroding. It contains unconsolidated riprap with intermittent stands of *Spartina alterniflora* along the lower shoreline and clumps of *Baccharis angustifolia* along the upper shoreline. The riprap is made up of uneven and oversized concrete rubble, asphalt, and concrete slabs with exposed reinforcing bars.

3.3 CULTURAL RESOURCES

3.3.1 Definition of the Resource

Cultural resources are defined as any prehistoric or historic district, site, building, structure, or object considered important to a culture, subculture, or community for scientific, traditional, or religious reasons. They can be divided into three categories: archaeological, architectural/engineering, and traditional. *Archaeological resources* are locations where prehistoric or historic activity measurably altered the earth or produced deposits of physical remains.

Architectural/engineering resources include standing buildings, dams, canals, bridges, and other structures of historic significance. Architectural/engineering resources generally must be more than 50 years old to be considered for inclusion in the National Register of Historic Places (NRHP). However, more recent structures, such as Cold War era resources, may warrant protection if they manifest “exceptional significance” or the potential to gain significance in the future. *Traditional resources* are resources associated with cultural practices and beliefs of a living community that are rooted in its history and are important in maintaining the continuing cultural identity of the community.

The ROI for cultural resources is the area within which the proposed action and the no action alternative have the potential to affect existing or potentially occurring archaeological, architectural, or traditional resources. For the proposed action and the no action alternative, the ROI is defined as Langley AFB.

3.3.2 Existing Conditions

Archaeological surveys at Langley AFB have examined 821 acres (28 percent) of the base, locating a total of 15 archaeological sites (Air Force 2004a, 2005a) within the base boundaries and another 3 immediately adjacent to the base. A comprehensive archaeological resource

overview produced a base sensitivity map, which indicated that most of Langley AFB had been disturbed by construction or other impacts (Air Force 2004a). The areas proposed for enhancement have a low potential for containing historic or cultural resources. Wheaton et al. (1992) indicated that much of the base exhibits a low potential for archaeological sites or that previous developments, such as dredging, filling, roadwork, and runway construction, have destroyed any potential for intact deposits.

The NRHP-eligible Langley Field Historic District encompasses the eastern part of the base, including the lighter-than-air (LTA) and heavier-than-air (HTA) areas (HQ TAC 1992). It includes nearly 250 contributing and noncontributing historic properties. The seawall, shown under construction in 1931 (see Figure 3-1), is a contributing element of the Langley Field Historic District.



Figure 3-1. Seawall Under Construction (1931)

No traditional resources or Native American issues have been identified for this project location on Langley AFB (Air Force 2004b). No federally recognized Indian tribes or lands are located in Virginia.

3.4 BIOLOGICAL RESOURCES

3.4.1 Definition of the Resource

For purposes of the impact analysis, biological resources are divided into three major categories: (1) terrestrial communities, (2) wetland and freshwater aquatic communities, and (3) threatened, endangered, and special status species/communities. The ROI for biological resources includes Langley AFB and the specific areas associated with the proposed action and the no action alternative.

3.4.2 Existing Conditions

TERRESTRIAL COMMUNITIES

Only a relatively small portion of Langley AFB is forested or remains in its natural state. Vegetative community types found within and around Langley AFB include: Estuarine Tidal Wetlands, Sweet-gum and Hardwood Bottomland, Pine Woodland, Persistent Emergent, Palustrine, and Mixed Oak and Hardwood Forest. Hundreds of vascular plant species occur around the vicinity of Langley AFB. Floral species diversity at Langley AFB is fairly limited, due to the relatively extensive disturbances that have occurred in the past. The remaining portions of the base consist of managed lawns and developed areas of buildings, structures, and pavement.

There are patchy areas of several marsh communities with various types of estuarine vegetation located within the proposed sites along the southern and northern boundary of the base and along the northeastern end of Tabbs Creek. Saltgrass (*Distichlis spicata*), reed (*Phragmites*), marsh elder (*Iva frutescens*), false willow (*Baccharis*), rush (*Juncus*), saltmeadow cordgrass (*Spartina patens*), and smooth cordgrass (*Spartina alterniflora*) are located at these areas and within the proposed project site area.

Wildlife on the base consists of widespread species that are habitat generalists or tolerant of disturbance. This includes a wide variety of game and fur-bearing species, small mammals, waterfowl, songbirds, raptors, amphibians, reptiles, and fish. The proximity of the base to estuarine and marine habitats of Chesapeake Bay provides habitat for a variety of neotropical migrants and waterfowl.

WETLANDS AND FRESHWATER AQUATIC COMMUNITIES

In the early years of this century the project area was a tidal marsh environment that was filled during construction and expansion of the base.

Wetlands are areas of transition between terrestrial and aquatic systems where the water table is usually at, or near, the surface or the land is covered by shallow water (USFWS 1979).

Wetlands are often categorized by water patterns (the frequency or duration of flooding) and location in relation to upland areas and water bodies. Wetland hydrology is considered one of the most important factors in establishing and maintaining wetland processes (Mitsch 2000).

Wetlands are defined in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual as “those areas that are inundated or saturated by surface or ground water at a

frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (USACE 1987). These resources are protected under Section 404 of the federal Clean Water Act (33 USC Section 1344) and at the State level by the Tidal Wetlands Act and for nontidal wetlands through the Virginia Water Protection Permit (VWPP) program. The Virginia Marine Resources Commission, in conjunction with USACE, administers tidal wetlands, while the VDEQ Division of Water Quality, Office of Wetland and Water Protection/Compliance, regulates state waters, including wetlands, under the VWPP program (9 VAC 25-210).

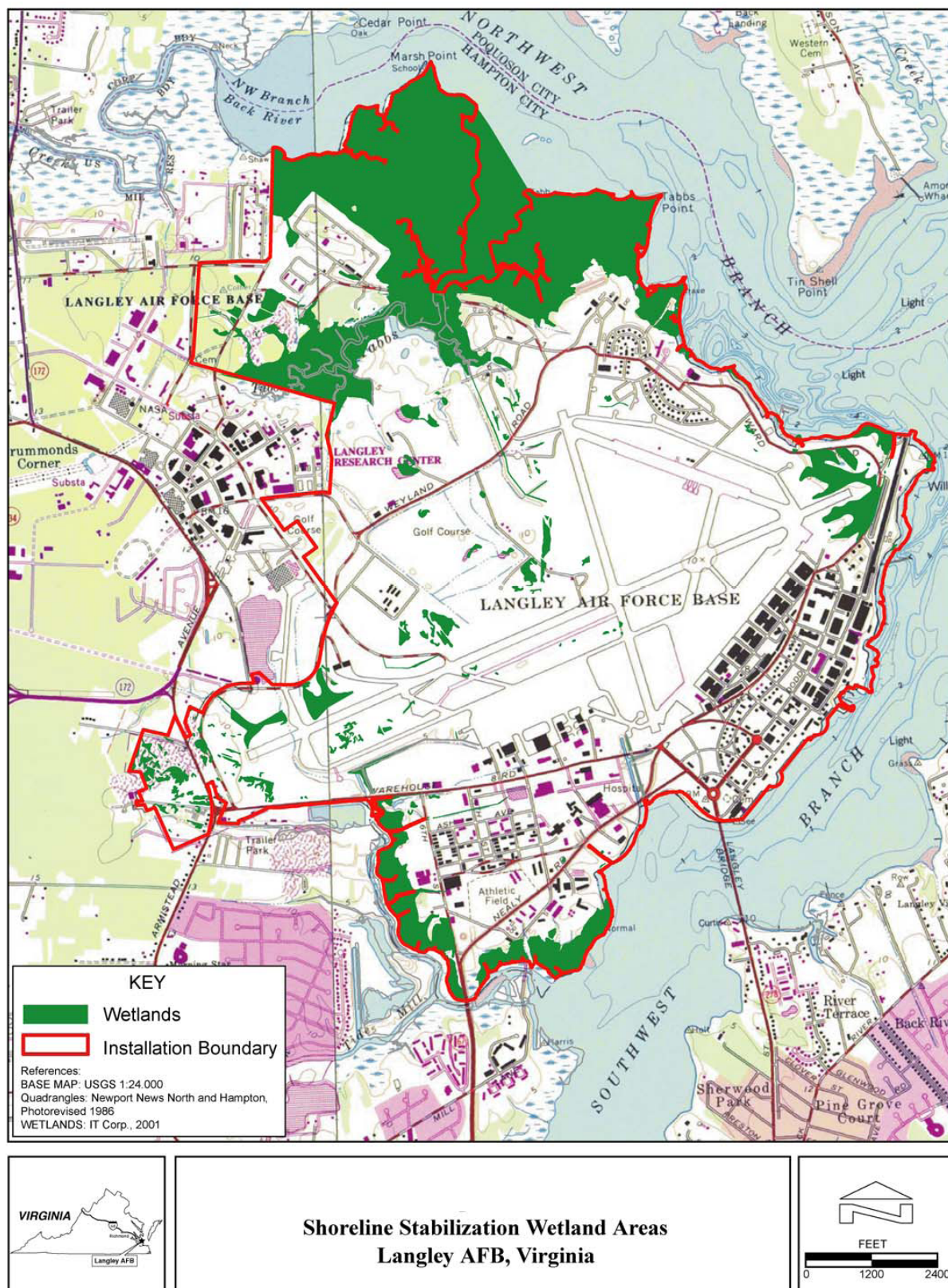
Langley AFB supports a total (influenced by seasonal fluctuations) of 652 acres of wetlands, of which 462 acres are Estuarine wetlands and 190 acres are Palustrine wetlands (Air Force 1998a). Wetlands are very beneficial because of their ability to store and filter stormwater, provide habitat, and naturally control shoreline and stream bank erosion. These areas are usually characterized by poorly drained soils and exhibit vegetation characteristic of wet environments. A wetland delineation of the entire base was conducted in late 2000 and verified by the USACE-Norfolk District on January 22, 2004, under Project Number 01-R-2076 (Air Force 2001b). This study revealed the various Emergent (saline/brackish/freshwater), Scrub/Shrub, and Forested wetland systems at Langley AFB. Wetland and freshwater aquatic communities are depicted in Figure 3-2.

Langley AFB has restored and stabilized portions of the shoreline adjacent to northwest and southwest branches of Back River using noninvasive, emergent vegetation such as saltmarsh cordgrass (*Spartina alterniflora*) and saltmeadow cordgrass (*Spartina patens*) (personal communication, Goss 2005).

The existing shoreline area is an historical wetland and floodplain environment displaying hydric soil sediments and hydrology characteristic of tidal wetlands. The size of the existing floodplain and coastal zone, along the shoreline, is slowly being decreased through erosion and wave energy, and the wetland vegetation has been reduced to intermittent clumps of *Spartina alterniflora*. Erosion of the shoreline causes soil to increase turbidity and total suspended solids in the water. Heavy siltation is detrimental to shellfish, which are filter feeders. The existing siltation problem within the water column provides no nutrition and can cause injury to gills.

Additionally, over time, the buildup of silt will cover and kill sessile organisms. Turbidity and suspended solids also reduce sunlight, which adversely affects the growth of SAV. SAV filters and assimilates nutrients in the water and provides a good habitat and feeding area for many aquatic organisms. A number of oyster lease grounds are located throughout the Back River. However, at these sites there are no adjacent or conflicting lease grounds. These state-owned grounds are leased by private individuals who raise oysters for public consumption. Generally, the oyster harvest is poor in this part of the river due to the low quality of the water.

Figure 3-2. Langley AFB Wetlands Map



Water sampling in the southeastern portions of the project site was conducted during the summer of 1998 in an effort to qualify the water body at this location for an SAV planting. Due to the turbidity, poor clarity in the water column, and the amount of suspended sediments, the area did not qualify for planting. Current water conditions at the site are not conducive to supporting new growth of SAV and oysters (Virginia Institute of Marine Science 1999).

THREATENED, ENDANGERED, AND SPECIAL STATUS SPECIES/COMMUNITIES

Table 3-1 presents threatened, endangered, and special status species with the potential to occur within a 10-mile radius of Langley AFB. No critical habitat occurs on base.

Langley AFB provides habitat for one federally listed threatened species: the bald eagle. Surveys conducted in 1993 and 1994 indicated that foraging by bald eagles occurs to a limited extent within creeks and marshes of the base. Habitat suitable for nesting or roosting occurs among the loblolly pines on the northern side of the base, but no nesting or long-term roosting has ever been observed. Uniform age/size structure of loblolly pine stands may limit use of the base as nesting or roosting habitat (Barrera 1995). The bald eagle has nested within 3 miles of the base in recent years. A nest was about 3 miles west of the base in 1997 and 1998. This nest has not been active since 1998. An active bald eagle nest site is 3 miles directly east of the base. This nest has been active for the last two breeding seasons. Also, a federally listed threatened species, the northeastern beach tiger beetle, has no record of occurrence on base; it typically inhabits broad sandy beaches and has become a species of concern within the Chesapeake Bay ecosystem. Additionally, the federally listed threatened species, the piping plover, is associated with sandy beaches, which are not found on Langley AFB.

Virginia-listed threatened and endangered species include eight threatened and six endangered species (Table 3-1). The canebrake rattlesnake has been found along the shore of the southwest branch of the Back River but is not expected to occur within the project area.

The following federal and commonwealth agencies were consulted concerning threatened, endangered, and special status species/communities. These agencies included the U.S. Fish and Wildlife Service, Virginia Field Office; the Virginia Department of Game and Inland Fisheries; and the Department of Conservation and Recreation, Division of Natural Heritage. Copies of correspondence from these agencies are provided in Appendix A.

3.5 WATER RESOURCES

3.5.1 Definition of the Resource

Langley AFB occupies a flat lowland peninsula with a gentle eastward slope of 1 foot per mile and elevations of 5 to 11 feet above MSL within the Atlantic Coastal Plain physiographic province.

**Table 3-1. Threatened, Endangered, and Special-Status Species/
Communities that Potentially Occur on Langley AFB**

<i>Species</i>	<i>Status</i>	<i>Areas of Occurrence</i>
Plants		
Harper's fimbriatilis <i>Fimbriatilis perpusill</i>	SE	Coastal seasonal ponds.
Virginia least trillium <i>Trillium pusillum</i> var. <i>virginianum</i>	FSC	Forested wetlands and mesic woods including the "green sea" wetlands. Recorded from the city of Hampton.
Invertebrates		
Northeastern beach tiger beetle <i>Cicindela dorsalis dorsalis</i>	FT	Broad beaches with well-developed sand dunes.
Amphibians		
Barking treefrog <i>Hyla gratiosa</i>	ST	Breeds in coastal seasonal freshwater ponds. Needs fish-free breeding habitat. Base at northern edge of range. Spends warm months in treetops, seeks moisture during dry periods by burrowing among tree roots and clumps of vegetation.
Mabee's salamander <i>Ambystoma mabeei</i>	ST	Breeds in coastal seasonal freshwater ponds. Needs fish-free breeding habitat. Tupelo and cypress bottoms in pine woods, open fields, and lowland deciduous forest.
Reptiles		
Canebrake rattlesnake <i>Crotalus horridus atricaudatus</i>	SE	Meadows, canebrake or "green sea" wetlands. At risk because of wetland loss. Swampy areas, canebrake thickets, and floodplains.
Birds		
Bald eagle <i>Haliaeetus leucocephalus</i>	FT/SE	Forages occasionally on base. Nests within 3 miles of the base.
Foster's tern <i>Sterna forsteri</i>	SS	Coastal and marshland bird that fishes the waters of the region.
Glossy ibis <i>Plegadis falcinellus</i>	SS	Wades in marshes and fishes the waters of the region.
Great egret <i>Asmerodius albus</i>	SC	Palustrine and estuarine wetlands, marshes.
Night-heron yellow-crowned <i>Nyctanassa violacea violacea</i>	SS	Wades in marshes and fishes the waters of the region.
Northern harrier <i>Circus cyaneus</i>	SS	Hunts over marshes and fields and is known to nest in the area.
Least tern <i>Sterna antillarum</i>	SS	Found feeding or nesting on beaches in the area.
Peregrine falcon <i>Falco peregrinus</i>	SE	Observed foraging over salt marshes on base. Open wetlands near cliffs.
Piping plover <i>Charadrius melodus</i>	FT/ST	Prefers areas with expansive sand or mudflats (for foraging) in close proximity to a sand beach (for roosting). Fifty-two designated critical habitat units from North Carolina south to northern Florida along mainland beaches and barrier islands.
Notes: FSC = Federal Species of Concern SE = State Endangered FT = Federal Threatened SS = State Sensitive SC = State Candidate ST = State Threatened Source: Virginia Fish and Wildlife Information Service 2005		

Water resources include surface and groundwater features located within the base as well as watershed areas affected by existing and potential runoff from the base, including floodplains. The ROI is defined as the base and the immediate vicinity.

3.5.2 Existing Conditions

SURFACE WATER

Langley AFB is bounded on the northeast side by the northwest branch of the Back River, and on the southeast side by the southwest branch of the Back River. The Back River is a tributary of the Chesapeake Bay; actually it is more of a wide cove of the Chesapeake Bay than it is a confined, flowing river. Flow in the Back River is controlled to a great extent by the tides of the Chesapeake Bay. The water is estuarine and primarily saline in nature. The base is bounded on the northeast side by the northwest branch of the Back River and on the southeast side by the southwest branch of the Back River, which flows into the Chesapeake Bay. Stormwater drainage is carried by a series of pipes, box culverts, and open ditches to 57 outfalls; 22 of those outfalls are associated with areas that contain industrial operations. The base has been issued a Virginia pollutant discharge permit (No. VA0083194) that expires on May 2, 2010. This permit identifies effluent limitations and requires quarterly sampling and management of runoff.

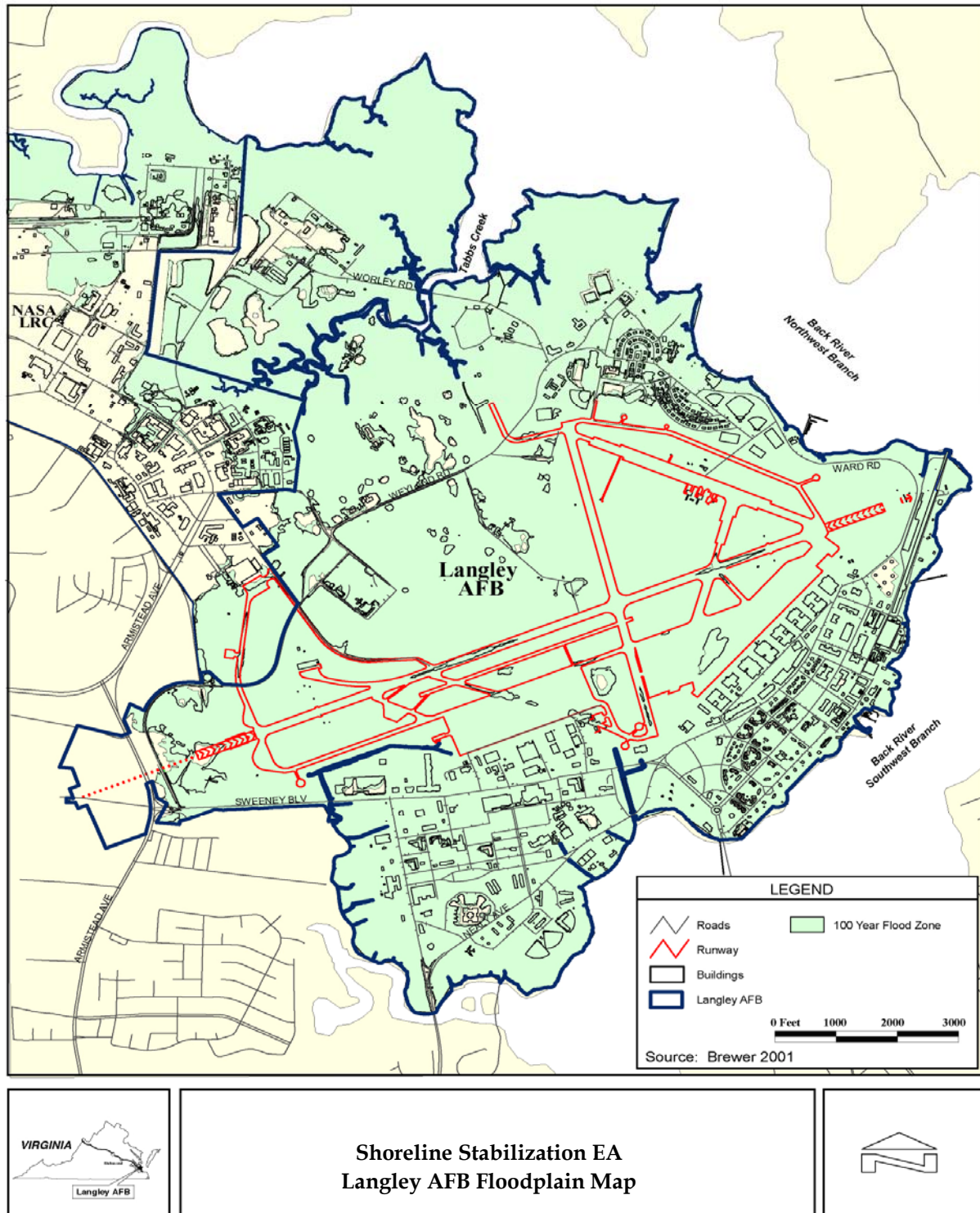
GROUNDWATER

In the region surrounding Langley AFB, groundwater occurs in nine aquifers separated by eight confining units within the unconsolidated sediments of the Virginia portion of the Atlantic Coastal Plain (Meng and Harsh 1988). However, as a result of extraordinary circumstances occurring during the depositional history of the Lower Virginia peninsula, the occurrence of groundwater beneath Langley AFB does not conform to the regional model. About 35 million years ago, a large comet or meteor slammed into the shallow shelf on the western margin of the Atlantic Ocean, creating the Chesapeake Bay impact crater. Virginia Coastal Plain sediments, the southern part of the Chesapeake Bay, and a small part of the Atlantic Ocean now cover the crater (Powars and Bruce 1999). The result of the impact was the local removal of five water-bearing units beneath the area now occupied by Langley AFB and their replacement by impact-generated crater fill sediments. It has been surmised that the groundwater beneath Langley AFB is not a practical source of irrigation or potable water. In 2004, an exploratory production well was completed at the Langley AFB golf course. While the well sustained a yield of 30 gallons per minute, the water evacuated during the pump test proved too brackish to be used untreated for either irrigation or potable purposes.

FLOODPLAINS

Due to its proximity to the Back River and the Chesapeake Bay, much of Langley AFB lies within the 100-year floodplain. Langley AFB is susceptible to high tide surges during storms and spring tides, and flooding is sometimes severe on the base. Figure 3-3 illustrates the extent of the 100-year floodplain on Langley AFB.

Figure 3-3. Langley AFB Floodplain Map



The proposed enhancement sites evaluated in this EA are located on the shoreline, and hence, are all located within the 100-year floodplain. There are no alternative locations available within the areas slated for enhancement that are above the 100-year floodplain.

3.6 AIR QUALITY

3.6.1 Definition of the Resource

Air quality is described by the atmospheric concentrations of six pollutants: ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter that is less than 10 microns (PM₁₀) and less than 2.5 microns (PM_{2.5}) in diameter, and lead (Pb).

3.6.2 Existing Conditions

Langley AFB is located in the city of Hampton, Virginia, which is within the Hampton Roads Intrastate Air Quality Control Region (AQCR) #223. The Hampton Roads AQCR includes four counties (York, James City, Isle of Wright, and Southampton), as well as nine independent cities (Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg). This area includes substantial industry, several military and commercial airfields, and a large population that generates air quality emissions.

Air quality in the Hampton Roads AQCR is currently designated as attainment or unclassified/attainment for all pollutants except the new O₃ standard. The Hampton Roads AQCR has until June 2007 to reach attainment for that standard. Based on monitoring data for the years 2001–2003, the U.S. Environmental Protection Agency (USEPA) took final action, designating the Hampton Roads AQCR as in attainment of the PM_{2.5} standard (USEPA 2004).

Table 3-2 summarizes the baseline emissions (stationary and mobile) of criteria pollutants and precursor emissions for this AQCR. Baseline emissions for Langley AFB are from calendar year 2004. For each criteria pollutant, Langley AFB contributes less than 1 percent of the regional emissions. Langley AFB is regulated by VDEQ, which has issued a synthetic minor permit for the base that limits the facility-wide nitrogen oxide (NO_x) emissions below the major source thresholds of the Title V operating permits program.

Table 3-2. Baseline Emissions for Langley AFB Affected Environment

<i>Emissions</i>	<i>Pollutants (tons per year)</i>				
	CO	VOCs	NO _x	SO ₂	PM ₁₀
Hampton Roads AQCR ¹	257,325	79,750	83,560	110,220	49,860
Langley AFB	76.1	56.98	45.9	2.35	17.59
---Stationary sources ²	20.4	51.2	35.2	1.89	9.8
---Mobile sources ²	55.7	5.78	10.7	0.46	7.79
Sources: ¹ Federal Register (629123) 26 June 1997; ² Air Force 2005b VOC = volatile organic compound					

The Clean Air Act Section 176(c), General Conformity, establishes certain statutory requirements for federal agencies with proposed federal activities to demonstrate conformity of the proposed activities with each state's State Implementation Plan (SIP) for achieving attainment of the health-protective national ambient air quality standards (NAAQS). The USEPA's General Conformity Rule requires that federal activities must not (1) cause or contribute to any new violation; (2) increase the frequency or severity of any existing violation; or (3) delay timely attainment of any standard, interim emission reductions, or milestones in conformity to a SIP's purpose of eliminating or reducing the severity and number of NAAQS violations or achieving attainment of NAAQS.

General conformity applies only to nonattainment and maintenance areas. Since the proposed project would be located in an O₃ marginal area, the General Conformity Rule applies to the project. If the emissions from a federal action proposed in such an area exceed annual emission thresholds identified in the rule (de minimis levels) or are deemed to be regionally significant (identified as equal to, or more than, 10 percent of the emissions inventory for the region), a conformity determination is required for that action. The thresholds become more restrictive as the severity of the nonattainment status of the region increases.

3.7 HAZARDOUS MATERIALS AND WASTE MANAGEMENT

3.7.1 Definition of the Resource

Hazardous materials are identified and regulated under the Comprehensive Environmental Response, Compensation, and Liability Act; the Occupational Safety and Health Administration (OSHA); and the Emergency Planning and Community Right-to-Know Act. Hazardous materials have been defined in Air Force Instruction (AFI) 32-7086, Hazardous Materials Management, to include any substance with special characteristics that could harm people, plants, or animals. Hazardous waste is defined in the Resource Conservation and Recovery Act as any solid, liquid, contained gaseous or semisolid waste, or any combination of wastes that could or do pose a substantial hazard to human health or the environment. Waste may be classified as hazardous because of its toxicity, reactivity, ignitability, or corrosivity. In addition, certain types of waste are "listed" or identified as hazardous in 40 CFR 263. The ROI for this resource is defined as Langley AFB.

3.7.2 Existing Conditions

HAZARDOUS MATERIALS

The majority of hazardous materials used by Air Force and contractor personnel at Langley AFB are controlled through an Air Force pollution prevention process called HAZMART. This process provides centralized management of the procurement, handling, storage, and issuing of hazardous materials and turn-in, recovery, reuse, or recycling of hazardous materials. The HAZMART process includes review and approval by Air Force personnel to ensure users are aware of exposure and safety risks. Pollution prevention measures are likely to minimize chemical exposure to employees, reduce potential environmental impacts, and reduce costs for material purchasing and waste disposal.

HAZARDOUS WASTE

Langley AFB is a large-quantity hazardous waste generator. Hazardous wastes generated during operations and maintenance activities include solvents, metal-contaminated spent acids, and sludge from wash racks. Langley AFB recycles all lubricating fluids, batteries, oil filters, and shop rags. Hazardous wastes are managed in accordance with the Langley AFB Hazardous Waste Management Plan, dated 15 May 2005. Facility 1390/1395 serves as a less than 90-day facility to collect hazardous waste from all initial accumulation points (personal communication, Hailey 2004).

Langley AFB has a Spill Prevention and Facility Response Plan (certified in February 2006). The plan meets the Federal Spill Prevention Control and Countermeasures requirements, the Virginia Oil Discharge Contingency Plan requirements, and the Coast Guard requirements.

ENVIRONMENTAL RESTORATION PROGRAM (ERP)

The Department of Defense (DoD) developed the Environmental Restoration Program (ERP) to identify, investigate, and remediate potentially hazardous material disposal sites that existed on DoD property prior to 1984. Fifty-five ERP sites have been identified on Langley AFB: 40 closed with no further action required, 10 under cleanup and 5 under study (Figure 3-4). The Langley AFB Management Action Plan (Air Force 2005c) summarizes the current status of the base environmental programs and presents a comprehensive strategy for implementing actions necessary to protect human health and the environment. This strategy integrates activities under the ERP and the associated environmental compliance programs that support full restoration of the base.

Proposed shoreline work would be conducted within the footprint of eight ERP sites: SS-63 (Back River sediments), Landfill-17, OT-25 (former entomology building/storage yard), WP-08 (former waste water treatment plant), Landfill-22, OT-55 (former CE storage yard), SS-61 (former CE paint shop/UST contamination), and Landfill-05. Air Combat Command approval (i.e., construction waivers) would also be required prior to construction within/near these ERP sites.

SOLID WASTE MANAGEMENT

Solid waste generated on Langley AFB is removed by contract services to either the city of Hampton's Bethel Sanitary Landfill or to the Hampton Waste-to-Energy facility for incineration. In FY 2003, the base generated 3,685 tons of solid waste and diverted 1,928 tons through recycling and composting activities. The base also generated 4,131 tons of construction and demolition debris and was able to recycle 2,890 tons of the debris. Big Bethel is a sanitary landfill but also accepts construction and demolition waste. In 2003, this facility received 574,386 tons of waste of all types. With a total capacity of about 27,953,000 tons, it has a remaining useful life of about 49 years (VDEQ 2004). In addition, there are four dedicated construction/demolition waste disposal landfills in the Hampton Roads area (Table 3-3). Their combined capacity is 1,970,686 tons. These facilities together received 284,162 tons of construction and demolition waste in 2003 and have a collective remaining useful life of about 6.1 years.

Figure 3-4. Basewide ERP Sites

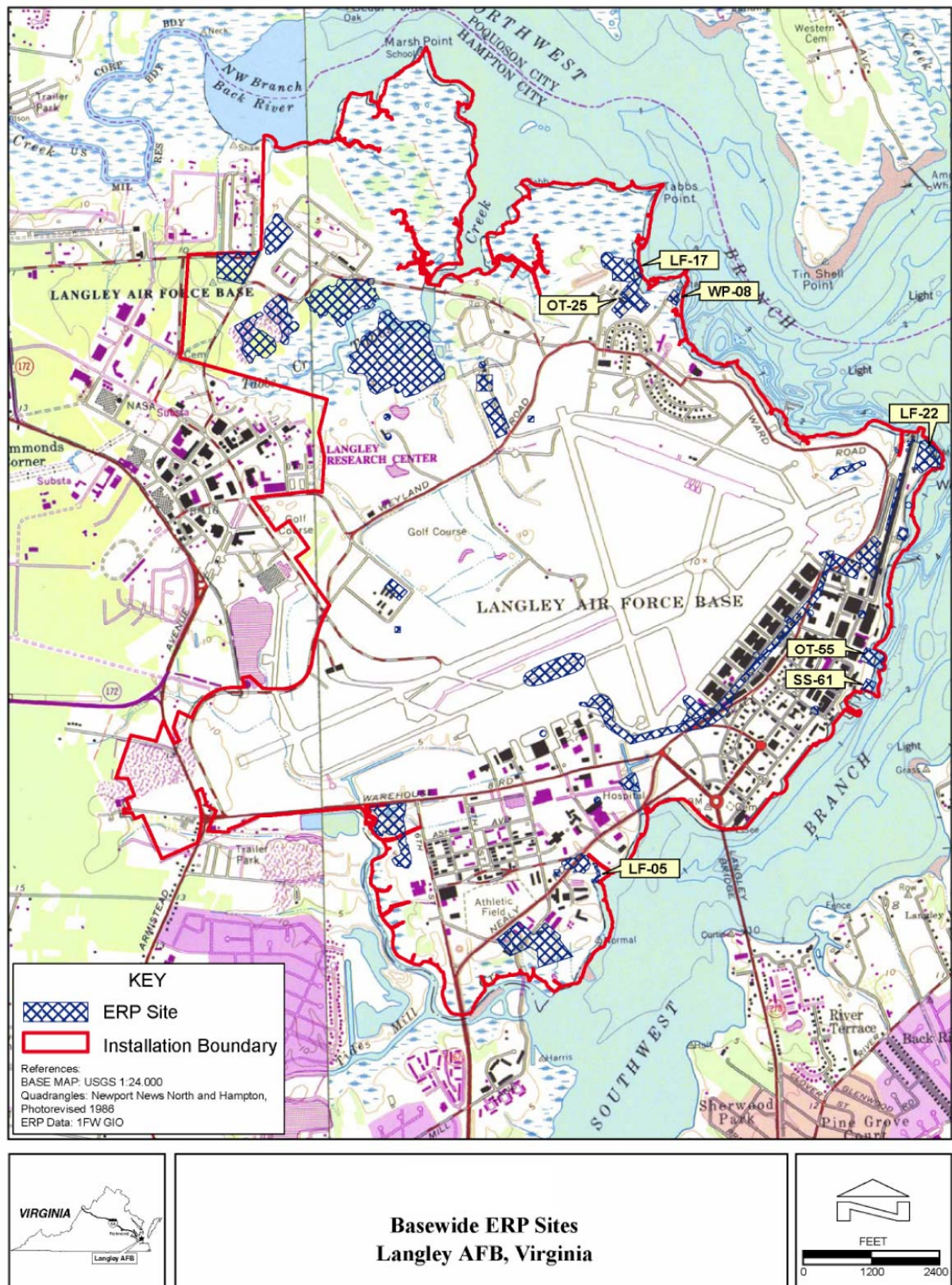


Table 3-3. Capacity, Disposal Rates, and Remaining Useful Life (RUL) for Construction-Demolition Waste Disposal Facilities in Hampton Roads

<i>Name</i>	<i>Permit</i>	<i>Location</i>	<i>Capacity (tons)</i>	<i>2003 Disposal (tons)</i>	<i>RUL</i>
Craney Island Landfill	041	Portsmouth	1,279,970	75,267	17.0
Higgerson-Buchanan Inc.	493	Chesapeake	593,516	133,640	4.4
Waltrip Landfill	322	James City	7,200	3,929	1.8
Wolftrap Operations Inc. Debris Landfill	436	York County	90,000	71,326	1.3
Total for Hampton Roads			1,970,686	284,162	6.1
Total for Virginia			18,054,541	2,455,035	7.4
<i>Note:</i> This is the combined (average) RUL for the four facilities, not the sum of their individual rules. <i>Source:</i> VDEQ 2004					

3.8 SAFETY

3.8.1 Definition of the Resource

This section addresses ground safety issues associated with activities conducted by units stationed at, or operating from, Langley AFB. Ground safety considers issues associated with operations and maintenance activities that support base and flight operations, including fire and crash response. The ROI for safety includes Langley AFB and the immediate vicinity.

3.8.2 Existing Conditions

Day-to-day operations and maintenance activities conducted on Langley AFB are performed in accordance with applicable Air Force safety regulations, published Air Force technical orders, and standards prescribed by Air Force Occupational Safety and Health requirements. Safety issues related to the proposed action focus on factors affecting construction of the shoreline enhancements. All contractors performing construction on Langley AFB are responsible for following safety regulations and worker compensation programs and are required to conduct construction or demolition activities in a manner that does not pose a risk to their workers or Langley AFB personnel. In addition, Langley AFB has established an industrial hygiene program that addresses exposure to hazardous materials, use of personal protective equipment, and the availability of material safety data sheets. Contractor personnel are required to follow this program.

3.9 NOISE

3.9.1 Definition of Resource

Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Human response to noise varies according to the type and characteristics of the noise source distance between source and receptor, receptor sensitivity, and time of day. The ROI for noise includes the area surrounding the project location.

3.9.2 Existing Conditions

At Langley AFB, noise contributions from aircraft operations and ground engine run-ups at the airfield have been calculated using the NOISEMAP model, the standard noise estimation methodology used for military airfields. NOISEMAP uses the following data to develop noise contours: aircraft types, runway utilization patterns, engine power settings, airspeeds, altitude profiles, flight track locations, number of operations per flight track, engine run-ups, and time of day. The Air Installation Compatible Use Zone (AICUZ) study (Air Force 1997) indicates that most of the shoreline enhancement sites are located in the 70-to-75 and 75-to-80 day-night average sound level (DNL) noise contours. Portions of the wetland buffer enhancement and the riprap installation area at the end of the runway are in the 85+ DNL noise contours.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 LAND USE, TRANSPORTATION, AND VISUAL RESOURCES

4.1.1 Proposed Action

LAND USE

The proposed project would not change any land use identified in the Base General Plan and would be compatible with the future land use delineated in that plan. Construction equipment associated with the riprap replacement element may violate the Land Use Control Area of the Clear Zone and Approach Departure Surface at the end of runway 5. Prior to construction activities in this area, an airfield waiver for construction would be required. Land use would also remain the same for adjacent property, including the private oyster grounds. Indeed, the proposed project may increase the harvest on private oyster grounds as water quality improves. The proposed action, which occurs primarily on federal property, would, as a matter of comity, be conducted as much as possible so as to be consistent with the requirements of the Chesapeake Bay Preservation Act and Management Regulations.

TRANSPORTATION

Construction-related truck traffic may lead to some degradation of base road surfaces and occasional congestion at the base's gate, however, this situation would be short term and not significant.

VISUAL RESOURCES

The overall effect of the shoreline stabilization project would be the successful removal of ineffective and visually unattractive hardscape shoreline structures and the restoration of the shoreline with an attractive, properly engineered seawall, riprap, and vegetative buffer. The project would provide a beneficial effect to the visual character of the Langley AFB shoreline.

4.1.2 No Action Alternative

No impacts to land use and transportation resources are anticipated under the no action alternative. However, if the no action alternative is chosen, improvements to the existing shoreline would not be made. The appearance of the shoreline would continue to be a detriment to the base and the existing riprap would be unable to control erosion.

4.2 CULTURAL RESOURCES

4.2.1 Proposed Action

A number of federal regulations and guidelines have been established for the management of cultural resources. Section 106 of the NHPA, as amended, requires federal agencies to take into account the effects of their undertakings on historic properties. Historic properties are cultural resources that are listed in, or eligible for listing in, the NRHP. Eligibility evaluation is the process by which resources are assessed relative to NRHP significance criteria for scientific or historic research, for the general public, and for traditional cultural groups. Under federal law,

impacts to cultural resources may be considered adverse if the resources have been determined eligible for listing in the NRHP or have significance for Native American groups.

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may occur by physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or alter its setting; or neglecting the resource to the extent that it deteriorates or is destroyed. Direct impacts are assessed by identifying the types and locations of proposed activity and determining the exact location of cultural resources that could be affected. Indirect impacts result primarily from the effects of project-induced population increases.

Fifteen archaeological sites have been identified within the boundaries of Langley AFB, although none are within the area that would be directly affected by the proposed action. Based on the sensitivity maps prepared for Langley AFB (Air Force 2004a), the area proposed for construction of the shoreline stabilization projects lies in areas of low sensitivity for archaeological resources. Areas around the existing seawall were filled during its initial construction in the 1930s, and no archeological resources are anticipated to be present. However, in the event that construction-related activities encounter archaeological resources, Langley AFB would cease work and comply with Section 106, including coordinating identification and mitigation actions with the Virginia SHPO, in accordance with federal law and Air Force regulations.

The seawall would be designed in keeping with the character of the historic district, and plans for the new seawall would be submitted to the SHPO for review and comment. No significant adverse effects on architectural/engineering resources are expected as a result of the proposed action. No traditional resources have been identified at this project location on Langley AFB. There are no federally recognized Indian lands at Langley AFB, and no issues have been identified by federally recognized or other Indian groups in Virginia. Thus, impacts to traditional resources are not expected under the proposed action.

In the event that features or deposits are encountered beneath fill levels, Langley would implement the standard Air Force procedures in AFI 32-7065 for unanticipated archeological discoveries.

4.2.2 No Action Alternative

Under the no action alternative, no construction would take place. No impacts to cultural resources would be expected. Resources would continue to be managed in compliance with federal law and Air Force regulations.

4.3 BIOLOGICAL RESOURCES

4.3.1 Proposed Action

No threatened or endangered species are known to be living on Langley AFB, although bald eagles, peregrine falcons, and osprey are known to feed and forage on the waters and tidal flats around Langley AFB. Fiddler crabs (*Uca* sp.), mud snails, gulls, and shore birds have been observed feeding and foraging at the proposed restoration sites. The proposed project would

increase the size and diversity of the native wetlands along the shoreline and would therefore provide increased food sources for the above mentioned animals. The proposed project would support the regional and local goals and objectives of the major interagency Chesapeake Bay Restoration Program.

The proposed action would have a positive effect on natural resources. The project would enhance biodiversity conservation by restoring native ecosystems along the shoreline and preserving existing clumps of *Spartina* species, as stipulated in Section 2.2 of AFI 32-7064, Integrated Natural Resources Management.

The project would also have a positive impact on the shoreline and in the Back River. Positive impacts include:

- Improved clarity of water through natural filtration of excess nutrients from stormwater runoff.
- Improved clarity of water through prevention of shoreline erosion.
- Introduction of additional wetland vegetative materials used as a food source.

The addition of wetland vegetation would have an overall positive impact on the local and migratory bird population centers. Since the birds would be feeding along the shoreline and not near the runway, BASH problems would be avoided for aircraft operations. The 8-week construction activity may create a short-term impact on migratory birds and on the local shore birds that use the site. Once construction is complete, the impact would be positive because of the increase in wetland vegetation and the improvement of the shoreline habitat.

4.3.2 No Action Alternative

Under the no action alternative, the shoreline would continue to erode 1 to 2 feet annually on the western end of the project and up to 6 inches along the remainder of the project site. As long as erosion occurs, Langley AFB would lose waterfront property. No new wetlands would be established to successfully filter runoff, improve water quality, provide food source for wildlife, and enhance the native fringe marshes surrounding Langley AFB. Water quality would continue to degrade due to the turbidity of the water from existing erosion and siltation. Productive ecosystem and shellfish growth would continue to decrease as water quality degrades.

4.4 WATER RESOURCES

4.4.1 Proposed Action

SURFACE WATER/GROUNDWATER

With a reduction of the impervious areas (large slab hardscape material removal) around the shoreline, the project would likewise reduce rain runoff of pollutants and turbidity. Where once hardscape materials alone offered little erosion control and filtration, the restored wetland would slow, filter, and take up runoff. During construction, siltation would be controlled by the prescribed use, inspection, and maintenance of erosion and sediment control barriers.

Once the wetland vegetation is established, the natural filtration process would enhance the quality of water adjacent to the shoreline, as compared with the filtration currently provided by the riprap structure. Sediments and nutrients would be trapped within the vegetative root mass and decaying debris around the base of each plant. Nutrients would be taken up and recycled through natural plant respiration. Additionally, wetlands buffer shorelines from storm surge as the native grasses dissipate the energy of the wave action.

Stormwater runoff from the base would flow through the wetland vegetation along the shoreline. Existing turbid conditions would be greatly improved by the establishment of the wetland buffer and natural root mat created by the *Spartina alterniflora*.

Construction activities that disturb more than 10,000 square feet would be regulated by the Virginia Erosion and Sediment Control Law and Regulations, and those that disturb 1 acre or greater would be regulated by the Virginia Stormwater Management Law and Regulations. The construction contractor would prepare and implement erosion and sediment control and stormwater management plans that identify standard construction practices to be implemented to eliminate or reduce sediment and nonstormwater discharges. Filtration would control stormwater runoff and soil erosion from the site. Prior to the start of construction, silt fences, storm drain inlet and outlet protection, and other appropriate standard construction practices would be instituted. These control measures are outlined in *Virginia Erosion and Sediment Control Handbook* administered by the Virginia Department of Conservation and Recreation. A Virginia Pollutant Discharge Elimination System general permit for discharges of stormwater from construction activities would be obtained by the construction contractor for construction activities that disturb 1 acre or more. With the implementation of the stormwater management plan and the standard construction practices, environmental consequences from erosion and sedimentation would be negligible.

There would be no destruction or alteration in any way of the coastal primary sand dunes or generation of any new point sources of pollution. No installation or operation of any septic system would be included in the proposed project. All work within the proposed action would be conducted in accordance with Virginia's Water Protection Permit Program.

Native wetlands would be restored creating approximately 3 acres of additional tidal marsh in an area that is composed of primarily hardscape materials or eroded shoreline. The positive impact of wetland creation continues to fulfill goals agreed to in the Federal Agencies Chesapeake Bay Ecosystem Unified Plan. The project would successfully establish a sustained biological ecosystem.

FLOODPLAINS

The proposed project site is within the 100-year floodplain. There is no practicable alternative to maintaining the shoreline without working within the 100-year floodplain of the Back River. Use of plastic preservation fencing throughout the 8-week construction period would preserve the existing clumps of *Spartina alterniflora* along the shoreline. The restoration would provide a positive impact to the shoreline especially during periods of high water or storm events by buffering against storm wave energy and flooding conditions as discussed earlier.

The proposed project would have a positive impact on the coastal zone, the wetlands, and floodplain. The final result of the wetland restoration would be to increase the native wetland resources, halt existing erosion conditions, and stabilize a retreating shoreline.

4.4.2 No Action Alternative

Under the no action alternative, the shoreline would continue to erode 1 to 2 feet annually on the western end of the project and up to 6 inches along the remainder of the project site. No new wetlands would be established to successfully filter runoff, improve water quality, provide food source for wildlife, and enhance the native fringe marshes surrounding Langley AFB. Water quality would continue to degrade due to the turbidity of the water from existing erosion and siltation.

4.5 AIR QUALITY

4.5.1 Proposed Action

The de minimis thresholds for Langley AFB, located within an ozone maintenance area, are 100 tons per year of NO_x and 100 tons per year of volatile organic compounds (VOCs) (maintenance area outside an ozone transport region). The emissions of NO_x and VOCs during filling from construction equipment (track excavator, backhoe, two heavy duty dump trucks, and two pickup trucks) would be below the annual de minimis levels, based on similar actions evaluated at Langley AFB and are not regionally significant. A conformity determination is not required. These two actions, the Shoreline Stabilization at the Lighter-Than-Air Area Pool and Sewage Pump Station (Air Force 2001a) and the Marina Repair (Air Force 2004b), evaluated demolition and construction activities similar to the proposed action and found no significant adverse effects to air quality. The result of these analyses is incorporated by reference. There would be no increase in stationary or mobile source emissions of NO_x or VOCs following construction. Dust emissions of PM produced during construction would be minimized through best management construction practices, such as watering of disturbed areas and street sweeping.

4.5.2 No Action Alternative

Under the no action alternative, construction of the shoreline stabilization projects would not occur. Air quality would remain the same as present conditions.

4.6 HAZARDOUS MATERIALS AND WASTE MANAGEMENT

4.6.1 Proposed Action

HAZARDOUS MATERIALS

Use of hazardous materials is not anticipated as a result of this project.

HAZARDOUS WASTE

Generation of appreciable amounts of construction hazardous wastes is not anticipated. Any soil suspected of contamination or hazardous wastes that are generated by the project must be tested and disposed of in accordance with applicable federal and state laws and regulations. In the event of fuel spillage during construction, the contractor would be responsible for its

containment, cleanup, and related disposal costs. The contractor would have sufficient spill supplies readily available on the pumping vehicle and/or at the site to contain any spillage. In the event of a contractor-related release, the contractor shall immediately notify their contracting agent and take appropriate actions to correct its cause and prevent future occurrences. No adverse environmental consequences would be expected.

ENVIRONMENTAL RESTORATION PROGRAM

Eight ERP sites are within the project area: SS-63 (Back River sediments), LF-17 (landfill), OT-25 (former entomology building/storage yard), WP-08 (former waste water treatment plant), LF-22, OT-55 (former CE storage yard), SS-61 (former CE paint shop/UST contamination), and LF-05. Air Combat Command approval (i.e., construction waivers) will be required prior to construction within/near these ERP sites. The environmental consequences for this resource are not anticipated to be significant.

SOLID WASTE

Unusable materials such as reinforcing bar, asphalt, and concrete fines generated from resizing efforts would be taken off-site to an approved recycling facility or landfill. No significant environmental consequences on landfill capacity would be expected from the proposed action.

4.6.2 No Action Alternative

Under the no action alternative, shoreline stabilization project construction would not occur. Management of hazardous materials, hazardous wastes, and solid wastes would continue under existing Langley AFB programs, and there would be no environmental consequences for these resources.

4.7 SAFETY

4.7.1 Proposed Action

Implementation of this action would result in a short-term increase in the risks associated with construction; however, no significant consequences are anticipated. Standard construction practices guided by OSHA regulations would be followed.

4.7.2 No Action Alternative

Under the no action alternative, construction of the shoreline stabilization projects would not take place.

4.8 NOISE

4.8.1 Proposed Action

Implementation of the proposed shoreline stabilization efforts would have minor, temporary increases in localized noise levels in the vicinity of the project area during demolition and construction. The base is an active military facility that typically experiences high noise levels from daily flight operations. Use of construction and demolition equipment for site preparation and development (i.e., demolition, grading, fill, and construction) would generate noise. However, noise would be similar to typical construction and demolition noise, would last only the duration of the specific construction and demolition activities, and could be reduced by the

use of equipment sound mufflers and restricting construction and demolition activity to normal working hours (i.e., between 7:00 a.m. and 5:00 p.m.). Table 4-1 shows sound levels associated with typical heavy construction equipment under varying modes of operation.

Table 4-1. Typical Equipment Sound Levels

<i>Equipment</i>	<i>Sound Level (in dBA) Under Indicated Operational Mode ¹</i>		
	<i>Idle Power</i>	<i>Full Power</i>	<i>Moving Under Load</i>
Forklift	63	69	91
Backhoe	62	71	77
Dozer	63	74	81
Front-end loader	60	62	68
Dump truck	70	71	74
¹ Measured at 125 feet Source: Air Force 1998b dBA = decibels measured on the A-weighted scale			

Compared with aircraft noise, noise produced by construction and demolition would be relatively lower in magnitude and spread out during the business day. Noise from truck traffic hauling construction materials to construction location and demolition materials away from the demolition location and the staging area would not affect base residents, because the West Gate would provide demolition and construction access. The noise disruptions would be temporary and limited to daytime hours; therefore, impacts are considered insignificant.

4.8.2 No Action Alternative

Under the no action alternative, demolition and construction would not occur. Noise levels would remain the same as they are currently.

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5.0 CUMULATIVE EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

5.1 CUMULATIVE EFFECTS

This section provides (1) a definition of cumulative effects, (2) a description of past, present, and reasonably foreseeable actions relevant to cumulative effects, and (3) an evaluation of cumulative effects potentially resulting from these interactions.

5.1.1 Definition of Cumulative Effects

CEQ regulations stipulate that the cumulative effects analysis within an EA should consider the potential environmental impacts resulting from “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions” (40 CFR Part 1508.7). Recent CEQ guidance in *Considering Cumulative Effects* (CEQ 1997) affirms this requirement, stating that the first steps in assessing cumulative effects involve defining the scope of the other actions and their interrelationship with the proposed action. The scope must consider geographic and temporal overlaps among the proposed action and other actions. It must also evaluate the nature of interactions among these actions.

Cumulative effects are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with, or in close proximity to, the proposed action would be expected to have more potential for a relationship than actions that may be geographically separated. Similarly, actions that coincide, even partially, in time would tend to offer a higher potential for cumulative effects.

To identify cumulative effects, this EA addresses three questions.

1. Does a relationship exist such that elements of the proposed action might interact with elements of past, present, or reasonably foreseeable actions?
2. If one or more of the elements of the proposed action and another action could be expected to interact, would the proposed action affect or be affected by impacts of the other action?
3. If such a relationship exists, does an assessment reveal any potentially significant impacts not identified when the proposed action is considered alone?

In this EA, an effort has been made to identify all actions that are being considered and that are in the planning phase at this time. To the extent that details regarding such actions exist and the actions have a potential to interact with the proposed action in this EA, these actions are included in this cumulative analysis. This approach enables decision makers to have the most current information available so that they can evaluate the environmental consequences of the proposed action.

5.1.2 Past, Present, and Reasonably Foreseeable Actions

This EA provides decision makers with not only the cumulative effects of the proposed action and the no action alternative, but also the contribution of past, present, and reasonably foreseeable actions.

PAST AND PRESENT ACTIONS

Langley AFB is an active military installation that experiences continuous and rapid evolution of mission and in training requirements. This process of change is consistent with the U.S. defense policy that the Air Force must be ready to respond to threats to American interests throughout the world. In 1998, the Air Force implemented a force structure change that added 12 F-15C aircraft and 134 personnel to Langley AFB, increasing the total number of F-15C aircraft to 66. In 2001, Langley AFB was chosen as the beddown location of the Initial Operational Wing for 72 F-22A aircraft. To support this beddown, various projects, including demolition and construction of three hangars, a new simulator building, and other support buildings, were constructed and approximately 16 acres of the base along the flightline were disturbed.

The base, like any other major military installation, also requires new construction, facility improvements, and infrastructure upgrades. The base has been in operation since 1917, and many facilities require extensive renovation or demolition. Demolition within the historic district in 2004 and 2005 included the water tower (616), greenhouse (1001), LTA single-family housing units (868, 869, 948, and 949), and seaplane hangar (633). Reconstruction of the King Street Gate is now complete, and new facility construction completed includes a new youth center, housing management office, dormitory complex, and operations support facility.

Currently, 1 FW is upgrading portions of electrical system, sanitary sewer system, and potable water distribution system and completing anti-terrorism/force protection improvements at its West Gate, which includes widening a portion of Sweeney Boulevard. There are also numerous hurricane repair projects underway to repair damage to facilities resulting from Hurricane Isabel, which struck the Hampton Roads area in 2003. Other major construction activities currently underway include a new mini-mall and extensive renovations at the munitions storage area.

REASONABLY FORESEEABLE FUTURE ACTIONS

For the FY 2006 to FY 2008 timeframe, 1 FW has proposed a number of actions that are independent of the proposed action and would be implemented irrespective of a decision on the proposed construction of shoreline improvements. In order to redevelop portions of the base and to eliminate facilities that are obsolete, the 1 FW has planned for demolition of the dock (610) and industrial buildings 615, 731, 732, 735, and 1033.

The 1 FW is also planning to construct new buildings and implement airfield improvements. Major new facilities include an 87,000-square-foot facility to consolidate the Air Force Command and Control, Intelligence, Surveillance, Reconnaissance Center. Also planned are the construction of a 144,000-square-foot building to consolidate the Distributed Common Ground System facilities and construction of force protection and access improvements to the LaSalle Gate. Planned community support construction includes new visitors' quarters,

expansion of the hospital, and redevelopment of the base marina. In addition, 1 FW is planning a series of infrastructure improvements that include an expansion to the alert area, new combat arms maintenance training range, replacement of the existing 2 million gallon per day potable water storage tank, and relocation of the government gas station.

Other facility upgrades/renovations at Langley AFB facilities are in the planning stage and are summarized in Table 5-1.

Table 5-1. Planned Facility Upgrades at Langley AFB

Facility	Building Space (square feet)
<i>North Base Area</i>	
VA ANG Fire Training Facility	6,000
Logistics Supply Center	185,000
Food Service At NASA	25,000
Education Center Expansion	25,000
DGS-1	144,000
<i>North Base Industrial Area</i>	
Auto/ Skills Development Facility	21,721
Transportation Vehicle Complex	26,000
New Hazardous Waste Storage Facility	1,800
EOD Operations Facility	29,998
Outdoor Recreational Facility	10,570
<i>Flightline</i>	
Aerospace Physiology	14,260
Consolidated Headquarters	42,495
<i>Community Support Area</i>	
Visitor's Quarters	36,000

In addition to the facilities listed in the table above, 1 FW is working with NASA Langley Research Center to acquire property in the North Base Area west of the Munitions Storage Area. An area development plan is being drafted that will propose significant redevelopment of the new property. Additional small construction projects are planned either as a result of the Air Force planning and programming process or are already in the early planning stages. There will also be some construction as a result of the Base Realignment and Closure Commission determinations, but the majority of these projects have not been fully developed. However, an addition to the Logistics Supply center is proposed for the Horse Stable area in FY07, and modifications to the Alert Hangar to accept F-22As are also tentatively scheduled.

Airfield improvements are also planned, with the rehabilitation of 45,000 square feet of taxiway and ramp surfaces and construction of approximately 240,000 square feet of new airfield pavement. The main runway is also scheduled to receive a major resurfacing in the summer of 2006.

5.1.3 Analysis of Cumulative Impacts

The following analysis examines how the impacts of these other actions might be affected by those resulting from the proposed action at Langley AFB and whether such a relationship would result in potentially significant impacts not identified when the proposed action is considered alone. Many of the projects identified in Table 5-1 have not been designed, and specific siting and features are not available to evaluate.

Land Use, Transportation, and Visual Resources

Land Use. The cumulative effect of the projects identified in Table 5-1 with the proposed action would not be significant for land use. Projects must conform to the Base General Plan and Area Development Plans which provide for consistent and orderly development on base.

Transportation. The effects of multiple construction projects at Langley AFB have the potential to degrade roads and increase congestion at the gates. The timing of these projects may not be concurrent with other projects identified in Table 5-1 and therefore significant adverse effects are not anticipated. Base engineering personnel evaluate road conditions, establish construction haul routes, and advise base security personnel as to potential issues prior to each major project being initiated. As employees are relocated to the North Base Support Area, improvements to the roadways in this area will be required and are currently under evaluation.

Visual. Projects identified in Table 5-1 would be constructed in accordance with Langley AFB's architectural and landscape standards, which should provide for a cohesive landscape within the boundaries of Langley AFB. The overall effect of the wetland restoration (a portion of the shoreline stabilization project) would be the successful removal of ineffective and unattractive hardscape shoreline structures and the restoration and stabilization of the shoreline with a natural vegetative buffer. Visually, the marsh materials would create different textures, as the wetland would establish picturesque native marsh, replacing hardscape.

Cultural Resources

The proposed wetland restoration portion of the shoreline stabilization project will reestablish native tidal marshes indicative of the site prior to the 1940s. The seawall will be designed in keeping with the character of the historic district and will enhance the protection of those resources from erosion of the shoreline. Archaeological resources at Langley AFB are surveyed and managed in accordance with state, federal, and Air Force regulations. Discovered resources are managed by Langley AFB and are avoided, to the greatest extent practicable, when siting new facilities. The Langley Field Historic District, including the seawall, a contributing element to the district, has been managed in consultation with the SHPO. The base has redeveloped properties such as Building 442 and constructed new facilities such as the new F-22A hangars with compatible architectural elements to maintain the district's historic character. *Langley Air Force Base Architectural, Landscape, Interior Design and Engineering Compatibility Standards* provides a framework for aesthetically coordinated base improvements for the next 50 years.

Demolition of additional contributing elements of the Langley Field Historic District would have a detrimental effect on the integrity of the district. Any changes within the Langley Field Historic District must follow the requirements contained in the *Cultural Resources Management Plan* (Air Force 2004a).

Biological Resources

While many of the projects identified in Table 5-1 would be constructed at locations previously disturbed by past development, some woodland and wetland habitats would be potentially affected by the overall development of the base. Construction in wetlands has occurred on base, in a few instances, under appropriate permits and approved mitigation strategies from USACE and other regulatory agencies. In some cases, enhancements, such as this project, have been instituted, to offset the impacts to wetlands. While the final siting and design of many of the projects in Table 5-1 have not been finalized, there is the potential for some adverse, but not significant, effect on woodland and wetland habitats on base. With the continued use of wetland enhancements, these effects are not anticipated to be significant.

Water Resources

Many of the projects identified in Table 5-1 will generate additional stormwater flows from impervious surfaces such as rooftops and parking lots. Stormwater from these projects will flow off base through drainage ditches and swales through areas which are slated to receive shoreline stabilization from this project. The shoreline enhancements will help reduce pollutants in the stormwater runoff and turbidity. This proposal will contribute to the overall sustainability of the Chesapeake Bay and complement the use of other stormwater best management practices proposed at Langley AFB by reducing stormwater pollutant loadings once the stabilization measures were in place, water quality could be expected to improve.

Air Quality

Air pollutant emissions from the projects listed in Table 5-1 would result in a temporary degradation of air quality due to increased heavy-duty vehicle traffic and dust associated with earth-moving activities. Enforcement of common construction practices during the construction period associated with the proposed shoreline stabilization project would minimize impacts to air quality and not additionally impact the air quality at Langley AFB. Policies regarding truck trips, idling, and size and type of earth moving equipment would be established to minimize the temporary degradation of air quality. The total emissions for VOCs and NO_x from the projects listed in Table 5-1 when combined with this project are below the 100 tons per year de minimis threshold and would not contribute significantly to the total air emissions expected at Langley AFB. Additionally, the emissions are not likely to occur concurrently given the phased nature of those projects and the type of work involved.

Hazardous Materials and Waste Management

Waste management would be required during the construction period of this project. Solid wastes that result from the removal of existing hardscape would be minimized through the use of this material as a primary feedstock for appropriately sized riprap. Unusable materials such as reinforcing bar, asphalt, and concrete fines generated from resizing efforts could be recycled or taken off-site to a permitted landfill. When combined with the projects contained in Table 5-1, sufficient landfill capacity exists to handle solid waste generated from this and the other projects.

Safety

Implementation of this action would result in a short-term increase in the risks associated with construction; however these risks would be site specific and not contribute additional risks to the activities associated with other projects occurring on Langley AFB. Standard demolition and construction practices guided by OSHA and NHPA regulations would be followed for this project and all others proposed on base.

Noise

Implementation of the proposed action would have minor, temporary increases in localized noise levels in the vicinity of the project area during construction. The base is an active military facility that typically experiences high noise levels from daily flight operations. Use of construction and demolition equipment for site preparation and development (i.e., grading, fill, and construction) would generate noise. Construction noise generated by this and other base projects are negligible when compared to the noise generated by aircraft operations.

5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that environmental analysis include identification of “. . . any irreversible and irretrievable commitments of resources which would be involved in the proposed action and alternatives should it be implemented.” Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources

have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable timeframe. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the demolition of a historic building).

For the proposed action, most resource commitments are neither irreversible nor irretrievable. Most environmental consequences are short-term and temporary (such as air emissions from construction) or longer lasting but negligible (e.g., utility increases). Shoreline stabilization construction would require consumption of limited amounts of materials typically associated with marine construction and the irretrievable commitment of fossil fuels through the use of vehicles necessary to remove demolition debris and construct the proposed improvements. The amount of these materials used is not expected to significantly decrease the availability of the resources.

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- Green, Paul PhD, 2004. Cultural Resources Manager, ACC/CEVPN, Langley Air Force Base, Virginia.
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APPENDIX A
INTERAGENCY AND INTERGOVERNMENTAL
COORDINATION FOR ENVIRONMENTAL PLANNING
(IICEP)



DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 1ST FIGHTER WING
LANGLEY AIR FORCE BASE VA

SEP 30 2005

1 CES/CEV
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Ms. Ellie Irons
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Richmond VA 23219

CERTIFIED MAIL
RETURN RECEIPT
7004 2890 0000 4312 5429

Dear Ms. Irons

The 1st Fighter Wing is beginning the process of preparing an Environmental Assessment (EA) to analyze the potential environmental impacts of implementing a proposed shoreline stabilization initiative (the Proposed Action) at Langley Air Force Base (AFB).

The Proposed Action consists of three elements. The first element is the repair, or potentially the replacement, of the approximately 70-year old reinforced concrete seawall along Benedict Avenue in the General Officer Quarters area of the base. Element one would include the installation of a properly engineered sheet pile bulkhead, filter cloth, and appropriate tiebacks installed in the bulkhead. The goal of the initiative is to repair or replace the existing seawall, not to create or construct a new one elsewhere along the Langley shoreline. The second element would be the removal of the randomly placed pieces of concrete and roadway material along the shoreline, the installation of a geotextile liner; resizing the concrete and using it as base material for a two-foot thick Class II revetment. Element two also includes the preservation, or where appropriate, the augmentation of the fringing tidal marsh currently existing seaward of the rip rap. The goal of element two is to place rip-rap in a fashion conducive to mitigating shoreline erosion and to produce an aesthetically pleasing view. The third element would preserve and augment the existing tidal marsh forming the base shoreline along parts of the Back River. One means to implement this element would be the planting of cordgrass (*Spartina*), in areas suitable for its propagation, to increase the total area of wetlands, enhance the marsh's ability to absorb wave energy and therefore better resist shoreline erosion.

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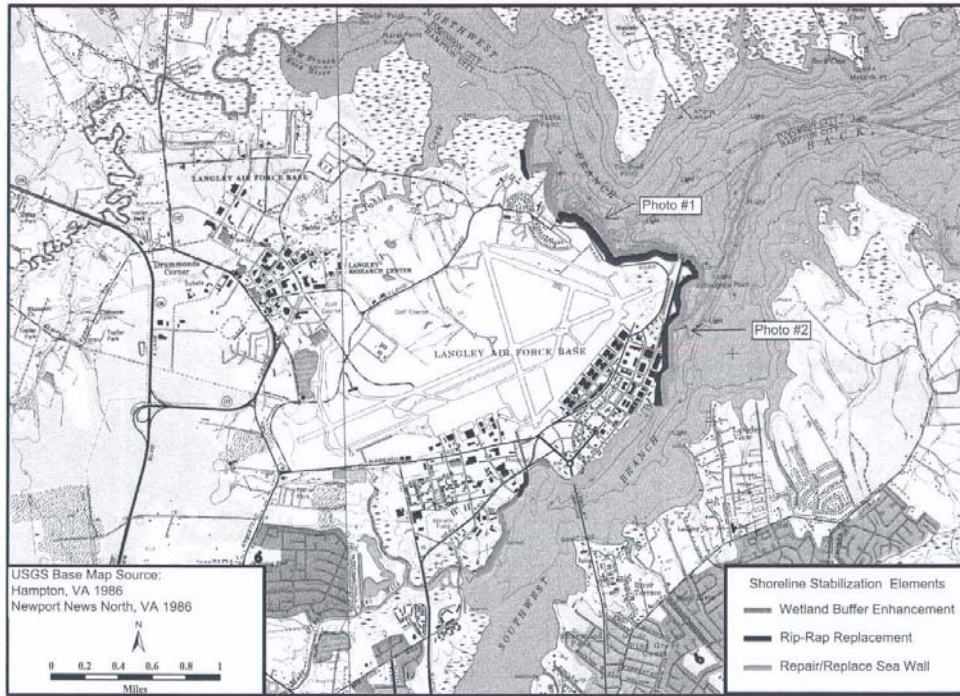
Please provide your comments or any requests for additional information to me either at the above address, by phone at (757) 764-1095 or by e-mail at matthew.goss@langley.af.mil. To facilitate and expedite the preparation of this EA, we request agency comments be returned by 24 October 2005.



MATTHEW C. GOSS, GS-11
Environmental Analysis Program Manager

2 Attachments:

1. Map of Proposed Action Area
2. Photographs of Proposed Action Area



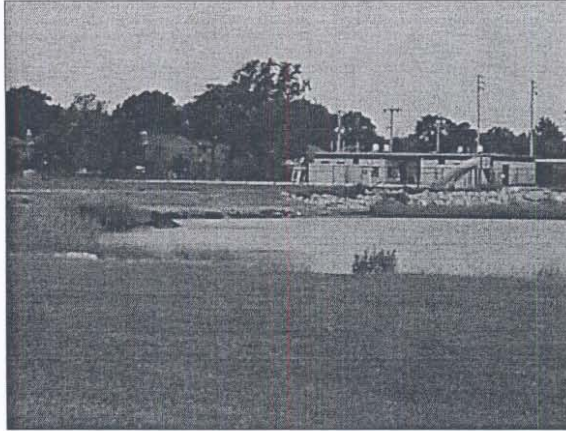


PHOTO 1

Langley Shoreline in LTA Pool Area looking North. Note area previously restored in front of pool with properly placed rip-rap and contrast to the area on the left with poorly placed rip-rap and lack of fringe wetlands.



PHOTO 2

Shoreline looking South with misplaced and improperly sized rip-rap with lack of filter cloth forming non-aesthetically pleasing view and potential safety hazards to the casual beach stroller



DEPARTMENT OF THE AIR FORCE

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SEP 30 2005

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Mr. David Grimes
Virginia Department of Transportation
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Dear Mr. Grimes

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Dear Mr. Narasimhan

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Dear Mr. Modena

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Matthew C. Goss

MATTHEW C. GOSS, GS-11
Environmental Analysis Program Manager

2 Attachments:

1. Map of Proposed Action Area
2. Photographs of Proposed Action Area



DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 1ST FIGHTER WING
LANGLEY AIR FORCE BASE VA

1 CES/CEV
37 Sweeney Boulevard
Langley AFB VA 23665-2107

SEP 30 2005

Mr. Keith Tignor
Virginia Department of Environmental Quality
Office of Plant & Pest Services
1100 Bank Street
Richmond VA 23219

CERTIFIED MAIL
RETURN RECEIPT
7003 1010 0001 9507 9676

Dear Mr. Tignor

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HEADQUARTERS 1ST FIGHTER WING
LANGLEY AIR FORCE BASE VA

1 CES/CEV
37 Sweeney Boulevard
Langley AFB VA 23665-2107

SEP 30 2005

Ms. Catherine Harold
Chesapeake Bay Local Assistance Department
101 N. 14th Street, 17th Floor
Richmond VA 23219

CERTIFIED MAIL
RETURN RECEIPT
7003 1010 0001 9507 9683

Dear Ms. Harold

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HEADQUARTERS 1ST FIGHTER WING
LANGLEY AIR FORCE BASE VA

1 CES/CEV
37 Sweeney Boulevard
Langley AFB VA 23665-2107

SEP 30 2005

Mr. John Davy
Virginia Department of Conservation & Recreation
203 Governor Street
Richmond VA 23219

CERTIFIED MAIL
RETURN RECEIPT
7003 1010 0001 9507 9690

Dear Mr. Davy

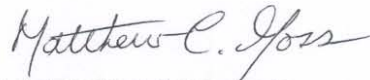
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HEADQUARTERS 1ST FIGHTER WING
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SEP 30 2005

1 CES/CEV
37 Sweeney Boulevard
Langley AFB VA 23665-2107

Mr. Michael Foreman
Virginia Department of Forestry
900 Natural Resources Drive, Suite 800
Charlottesville VA 22903

CERTIFIED MAIL
RETURN RECEIPT
7003 1010 0001 9507 9706

Dear Mr. Foreman

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LANGLEY AIR FORCE BASE VA

1 CES/CEV
37 Sweeney Boulevard
Langley AFB VA 23665-2107

SEP 30 2005

Mr. Ray Fernald
Virginia Department of Game and Inland Fisheries
4010 West Broad Street
Richmond VA 23230

CERTIFIED MAIL
RETURN RECEIPT
7003 1010 0001 9507 9713

Dear Mr. Fernald

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1 CES/CEV
37 Sweeney Boulevard
Langley AFB VA 23665-2107

SEP 30 2005

Mr. Alan Weber
Virginia Department of Health
109 Governor Street, 6th Floor
Division of Drinking Water
Richmond VA 23219

CERTIFIED MAIL
RETURN RECEIPT
7003 1010 0001 9507 9720

Dear Mr. Weber

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LANGLEY AIR FORCE BASE VA

1 CES/CEV
37 Sweeney Boulevard
Langley AFB VA 23665-2107

SEP 30 2005

Mr. Gerald P. Wilkes
Virginia Department of Mines, Minerals and Energy
Division of Mineral Resources
P.O. Box 3667
Charlottesville VA 22903

CERTIFIED MAIL
RETURN RECEIPT
7004 0750 0001 7460 9217

Dear Mr. Wilkes

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HEADQUARTERS 1ST FIGHTER WING
LANGLEY AIR FORCE BASE VA

1 CES/CEV
37 Sweeney Boulevard
Langley AFB VA 23665-2107

SEP 30 2005

Mr. Thomas A. Barnard, Jr.
Virginia Marine Resources Commission
P.O. Box 1346
Gloucester Point VA 23062

CERTIFIED MAIL
RETURN RECEIPT
7004 0750 0001 7460 9224

Dear Mr. Barnard

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HEADQUARTERS 1ST FIGHTER WING
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SEP 30 2005

1 CES/CEV
37 Sweeney Boulevard
Langley AFB VA 23665-2107

Mr. Tony Watkinson
Virginia Marine Resources Commission
2600 Washington Avenue, 3rd Floor
Newport News VA 23607

CERTIFIED MAIL
RETURN RECEIPT
7004 0750 0001 7460 9231

Dear Mr. Watkinson

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HEADQUARTERS 1ST FIGHTER WING
LANGLEY AIR FORCE BASE VA

SEP 30 2005

1 CES/CEV
37 Sweeney Boulevard
Langley AFB VA 23665-2107

Ms. Ethel Eaton
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond VA 23221

CERTIFIED MAIL
RETURN RECEIPT
7004 0750 0001 7460 9248

Dear Ms. Eaton

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HEADQUARTERS 1ST FIGHTER WING
LANGLEY AIR FORCE BASE VA

SEP 30 2005

1 CES/CEV
37 Sweeney Boulevard
Langley AFB VA 23665-2107

Ms. Karen L. Mayne
U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
P.O. Box 99
Gloucester VA 23061

CERTIFIED MAIL
RETURN RECEIPT
7004 2890 0000 4312 5412

Dear Ms. Mayne

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Global Power For America

Pursuant to analysis of the proposed action, as well as compliance with the Endangered Species Act, we would like to request information regarding listed threatened, endangered, candidate, and proposed to be listed species that occur or may occur in the potentially affected area. Please identify a point of contact for any follow-up questions we may have concerning the data you provide and we look forward to receiving your comments as part of this process.

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SEP 30 2005

1 CES/CEV
37 Sweeney Boulevard
Langley AFB VA 23665-2107

Mr. Harold Winer
Virginia Department of Environmental Quality
Tidewater Regional Office
5636 Southern Boulevard
Virginia Beach VA 23462

CERTIFIED MAIL
RETURN RECEIPT
7004 2890 0000 4312 5436

Dear Mr. Winer

The 1st Fighter Wing is beginning the process of preparing an Environmental Assessment (EA) to analyze the potential environmental impacts of implementing a proposed shoreline stabilization initiative (the Proposed Action) at Langley Air Force Base (AFB).

The Proposed Action consists of three elements. The first element is the repair, or potentially the replacement, of the approximately 70-year old reinforced concrete seawall along Benedict Avenue in the General Officer Quarters area of the base. Element one would include the installation of a properly engineered sheet pile bulkhead, filter cloth, and appropriate tiebacks installed in the bulkhead. The goal of the initiative is to repair or replace the existing seawall, not to create or construct a new one elsewhere along the Langley shoreline. The second element would be the removal of the randomly placed pieces of concrete and roadway material along the shoreline, the installation of a geotextile liner; resizing the concrete and using it as base material for a two-foot thick Class II revetment. Element two also includes the preservation, or where appropriate, the augmentation of the fringing tidal marsh currently existing seaward of the rip rap. The goal of element two is to place rip-rap in a fashion conducive to mitigating shoreline erosion and to produce an aesthetically pleasing view. The third element would preserve and augment the existing tidal marsh forming the base shoreline along parts of the Back River. One means to implement this element would be the planting of cordgrass (*Spartina*), in areas suitable for its propagation, to increase the total area of wetlands, enhance the marsh's ability to absorb wave energy and therefore better resist shoreline erosion.

In addition to the proposed action the no-action alternative will be analyzed in the EA. Attachment 1 is a topographic map image that provides a regional context for the Proposed Action. Attachment 2 provides site-specific photographs of the proposed action area.

Global Power For America

Please provide your comments or any requests for additional information to me either at the above address, by phone at (757) 764-1095 or by e-mail at matthew.goss@langley.af.mil. To facilitate and expedite the preparation of this EA, we request agency comments be returned by 24 October 2005.

Matthew C. Goss

MATTHEW C. GOSS, GS-11
Environmental Analysis Program Manager

2 Attachments:

1. Map of Proposed Action Area
2. Photographs of Proposed Action Area



COMMONWEALTH of VIRGINIA

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P. O. Box 10009, Richmond, Virginia 23240
Fax (804) 698-4500 TDD (804) 698-4021
www.deq.virginia.gov

Robert G. Burnley
Director
(804) 698-4000
1-800-592-5482

October 12, 2005

Mr. Matthew C. Goss
Environmental Analysis Program Manager
Department of the Air Force
Headquarters 1st Fighter Wing, 1 CES/CEV
37 Sweeney Boulevard
Langley Air Force Base, Virginia 23665

RE: Proposed Shoreline Stabilization Initiative
(certified mail return receipt #7004 2890 0000 4312 5429)

Dear Mr. Goss:

Thank you for your September 30 letter concerning the proposed shoreline stabilization initiative at Langley Air Force Base (AFB). In that letter, you invited requests for additional information or comments as the Air Force prepares an environmental assessment (EA) pursuant to the National Environmental Policy Act.

The roles of the Virginia Department of Environmental Quality (DEQ) in relation to the project under consideration are as follows. First, DEQ's Office of Environmental Impact Review (this Office) will coordinate Virginia's review of any environmental documents prepared pursuant to the National Environmental Policy Act (NEPA) and comment to the Air Force on behalf of the Commonwealth. A similar review process will pertain to the federal consistency determination that must be provided pursuant to the Coastal Zone Management Act (CZMA).

Environmental Review and Scoping

While this Office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments pertaining to resources under their jurisdiction to assist in the preparation of the NEPA documents for the proposed project. Therefore, we are sharing your letter with selected state and local Virginia agencies, which are likely to include the following (note: starred (*) agencies administer one or more of the Enforceable Policies of the Virginia Coastal Resources Management Program; see "Federal Consistency....," below):

Department of Environmental Quality:
Office of Environmental Impact Review
Tidewater Regional Office*

Mr. Matthew C. Goss
Page 2

Water Quality Division*
Air Division*
Waste Division
Department of Game and Inland Fisheries*
Department of Conservation and Recreation:
Division of Chesapeake Bay Local Assistance*
Division of Soil and Water Conservation*
Division of Planning and Recreation Resources
Marine Resources Commission*
Department of Historic Resources
Virginia Institute of Marine Science
Hampton Roads Planning District Commission
City of Hampton
City of Poquoson.

Federal Consistency under the Coastal Zone Management Act

Pursuant to the Coastal Zone Management Act of 1972, as amended, federal activities affecting Virginia's coastal resources or coastal uses must be consistent with the Virginia Coastal Resources Management Program (VCP) (see section 307(c)(1) of the Act and the Federal Consistency Regulations, 15 CFR Part 930, sub-part C, sections 930.30 through 930.46). The Air Force must provide a consistency determination which involves an analysis of the activities in light of the Enforceable Policies of the VCP (first enclosure), and a commitment to comply with the Enforceable Policies. In addition, we invite your attention to the Advisory Policies of the VCP (second enclosure). The federal consistency determination may be provided as part of the NEPA documentation. If the federal consistency determination is included as part of the NEPA document, there can be a single review taking 60 days as allowed by the Federal Consistency Regulations (15 CFR Part 930, section 930.41(a)). We recommend this approach to save time and extra effort for the Air Force as well as for the Commonwealth. Section 930.39 of the Federal Consistency Regulations and Virginia's Federal Consistency Information Package (see below) give content requirements for the consistency determination.

The Federal Consistency Information Package is available on DEQ's web site, <http://www.deq.virginia.gov>. Select "Programs" on the left, then scroll to "Environmental Impact Review/Federal consistency" and select this heading. Select "federal consistency reviews" on the left. This gives you access to the document.

In order to ensure an effective coordinated review of the EA and the consistency determination, we will require 18 copies of the document when it is published. The document should include a U.S. Geological Survey topographic map as part of its information. We recommend, as well, that project details be adequately described in the document.

If you have questions, please feel free to call me (telephone (804) 698-4325) or Charles Ellis of this Office (telephone (804) 698-4488).

Mr. Matthew C. Goss
Page 3

I hope this information is helpful to you.

Sincerely,



Ellie L. Irons
Program Manager
Office of Environmental Impact Review

cc: Harold J. Winer, DEQ-TRO
Kotur S. Narasimhan, DEQ-Air
Allen R. Brockman, DEQ-Waste
Catherine M. Harold, DEQ-DWQ
Andrew K. Zadnik, DGIF
Scott Bedwell, DCR
Tony Watkinson, MRC
David O'Brien, VIMS
Ethel R. Eaton, DHR
Arthur L. Collins, Hampton Roads PDC
James Freas, City of Hampton
Charles W. Burgess, Jr., City of Poquoson



COMMONWEALTH of VIRGINIA

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Department of Historic Resources
2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. K

Tel: (804) 3
Fax: (804) 3
TDD: (804) 3
www.dhr.virg

October 25, 2005

Mr. Matthew C. Goss
1 CES/CEV
37 Sweeney Boulevard, Langley Air Force Base
Hampton, Virginia 23665-2107

Re: Proposed Shoreline Stabilization Initiative
Langley Air Force Base
Hampton, Virginia
DHR File No. 2005-1480

Dear Mr. Goss:

We have received your request for our review and comment regarding the above referenced project. It is our understanding that the Air Force proposes to undertake shoreline stabilization by replacing the existing reinforced concrete seawall along Benedict Avenue in the General Officer Quarters area at Langley Air Force Base located in Hampton, Virginia. The project is within the boundary of the National Register of Historic Places-eligible Langley Air Force Base Historic District. Therefore, the new seawall should be designed in a manner that is in keeping with the architectural character of the historic resource. Please provide the Department of Historic Resources (DHR) the design plans for the new seawall for our review and comment.

Our records indicate that archaeological site 44HT10, the Sherwood Plantation, is located in the area behind the concrete seawall in the General Officer Quarters area. Also, previous studies suggest that the entire seawall area retains moderate potential for archaeological deposits. It is unclear from our records whether the area immediately adjacent to the seawall has been subjected to archaeological survey. If the repair and/or replacement of the seawall will result in ground disturbance of areas not previously disturbed by similar activities and it cannot be demonstrated that the area has been surveyed, then additional archaeological investigations may be necessary. Please provide additional information on the amount of anticipated ground disturbance and results of any previous archaeological studies. The remaining elements of this proposed project, the wetland buffer enhancement and the rip-rap replacement, are taking place in areas determined to have low archaeological potential and no further studies of these areas are warranted.

If you have any questions about the Section 106 review process or our comments, please call me at (804) 367-2323, Ext. 114.

Sincerely,

Marc Holma, Architectural Historian
Office of Review and Compliance

Administrative Services
10 Courthouse Avenue
Petersburg, VA 23803
Tel: (804) 863-1624
Fax: (804) 862-6196

Capital Region Office
2801 Kensington Ave.
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

Tidewater Region Office
14415 Old Courthouse Way, 2nd Floor
Newport News, VA 23608
Tel: (757) 886-2807
Fax: (757) 886-2808

Roanoke Region Office
1030 Penmar Ave., SE
Roanoke, VA 24013
Tel: (540) 857-7585
Fax: (540) 857-7588

Winchester Region Office
107 N. Kent Street, S
Winchester, VA 22604
Tel: (540) 722-3427
Fax: (540) 722-7535

W. Tayloe Murphy, Jr.
Secretary of Natural
Resources



Joseph H. Maroon
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

217 Governor Street
Richmond, Virginia 23219-2010
Telephone (804) 786-7951 FAX (804) 371-2674 TDD (804) 786-2121

M E M O R A N D U M

DATE: October 27, 2005

TO: Matthew C. Goss, GS-11
1 CES/CEV
37 Sweeney Boulevard
Langley AFB, VA 23665
Matthew.goss@langley.af.mil

FROM: Robert Munson, Planning Bureau Manager
Virginia Department of Conservation and Recreation

SUBJECT: DCR-05-033: Langley AFB – Proposed Shoreline Stabilization Project

The Department of Conservation and Recreation (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, natural heritage resources have not been documented in the project area. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

Our files do not indicate the presence of any State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

The Virginia Department of Game and Inland Fisheries maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters, which may contain information not documented in this letter. Their database may be accessed from http://www.dgif.virginia.gov/wildlife/info_map/index.html, or contact Shirl Dressler at (804) 367-6913.

*State Parks • Soil and Water Conservation • Natural Heritage • Outdoor Recreation Planning
Chesapeake Bay Local Assistance • Dam Safety and Floodplain Management • Land Conservation*

The proposed shoreline stabilization project at Langley AFB is considered a water-dependent activity that is allowed in the Resource Protection Area provided that a water quality assessment is provided for any land-disturbing activity; it does not conflict with the local government's comprehensive plan; it complies with the performance criteria set forth in 9 VAC 10-20-120; any non-water dependent component is located outside of resource Protection Areas; and access is provided with the minimum disturbance necessary and where practicable a single point of access is provided.

Provided the above are adhered to, the project would be consistent with the Chesapeake Bay Preservation Act; Virginia Code sections 10-1-2100 through 10.1-2114 and Chesapeake Bay Preservation Area Designation and Management Regulations; Virginia Code §9 VAC 10-20-10 et seq.

Thank you for the opportunity to comment on this project.

Sincerely,

A handwritten signature in dark ink, appearing to read "Robert S. Munson". The signature is fluid and cursive, with the first name "Robert" and last name "Munson" clearly distinguishable.

Robert S. Munson
Planning Bureau Manager

W. Tayloe Murphy, Jr.
Secretary of Natural
Resources



Joseph H. Maroon
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

217 Governor Street
Richmond, Virginia 23219-2010
Telephone (804) 786-7951 FAX (804) 371-2674 TDD (804) 786-2121

November 23, 2005

Matthew C. Goss
1 CES/CEV
37 Sweeney Blvd.
Langley AFB, VA 23665-2107

Re: Langley Air Force Base: Benedict Avenue Seawall

Dear Mr. Goss:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, natural heritage resources have not been documented in the project area. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

In addition, our files do not indicate the presence of any State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

Due to an increasing number of requests and limiting staffing resources, effective July 1, 2003 DCR-DNH will require 30 days to comment on projects submitted for our review.

The Virginia Department of Game and Inland Fisheries maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters, that may contain information not documented in this letter. Their database may be accessed from http://www.dgif.virginia.gov/wildlife/info_map/index.html, or contact Shirl Dressler at (804) 367-6913.

*State Parks • Soil and Water Conservation • Natural Heritage • Outdoor Recreation Planning
Chesapeake Bay Local Assistance • Dam Safety and Floodplain Management • Land Conservation*

Should you have any questions or concerns, feel free to contact me at 804-371-2708. Thank you for the opportunity to comment on this project.

Sincerely,

S. René Hypes
Project Review Coordinator



COMMONWEALTH of VIRGINIA

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Marine Resources Commission

2600 Washington Avenue
Third Floor
Newport News, Virginia 23607

William A. Pruitt
Commissioner

November 15, 2005

Mr. Matthew C. Goss
1 CES/CEV
37 Sweeney Boulevard
Langley AFB, VA 23665-2107

Re: Langley Air Force Base
Shoreline Stabilization

Dear Mr. Goss;

In accordance with your letter dated September 30, 2005, we have reviewed the above-referenced plan to repair or replace the concrete seawall along Benedict Avenue in the General Officer Quarters area of the base, repair and properly design and install the construction debris revetment along the shoreline, and restore wetlands along Back River.

The Marine Resources Commission, pursuant to Chapter 12 of Title 28.2 of the Code of Virginia, is responsible for issuing permits for encroachments in, on, or over State-owned submerged lands throughout the Commonwealth. From the information provided in your letter, it is difficult to determine whether the project will involve any encroachments channelward of mean low water along any natural rivers and streams. If encroachments onto State-owned submerged lands is proposed, submission of a Joint Permit Application will be required.

Thank you for the opportunity to comment on this project. If we may be of further assistance, please do not hesitate to give us a call.

Sincerely,

Traycie L. West
Environmental Engineer

HM
TLW/

An Agency of the Natural Resources Secretariat

Web Address: www.mrc.virginia.gov

Telephone (757) 247-2200 (757) 247-2292 V/TDD Information and Emergency Hotline 1-800-541-4646 V/TDD



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219-2000
VirginiaDOT.org

GREGORY A. WHIRLEY
ACTING COMMISSIONER

October 11, 2005

Mr. Matthew C. Goss, GS-11
Environmental Analysis Program Manager
Department of the Air Force
Headquarters 1st Fighter Wing
1 CES/CEV
37 Sweeney Boulevard
Langley Air Force Base, Virginia 23665-2107

Re: Implementation of Proposed Shoreline Stabilization Initiative at Langley Air Force Base

Dear Mr. Goss:

We have reviewed the information provided for the referenced project. This improvement should not adversely impact the existing or future transportation system, however any land use requirements, lane closures, traffic control or work zone safety issues should be closely coordinated with affected counties/cities and VDOT's Williamsburg Residency (757-253-4832).

Thank you for the opportunity to comment on this project.

Sincerely,

Mary T. Stanley
Environmental Engineer
Virginia Department of Transportation
(804) 786-0868



PUBLIC NOTICE, published in *The Daily Press* on May 1, 2006:

**The Department of the Air Force Invites Public Comments
On the Draft Environmental Assessment for Shoreline
Stabilization Initiatives at Langley Air Force Base (AFB)**

Langley AFB has prepared a Draft Environmental Assessment (EA) to analyze the potential impacts of Shoreline Stabilization at Langley AFB. The Draft EA assesses the potential environmental consequences resulting from the construction of three project elements: repair or replacement of the concrete seawall; shoreline stabilization with properly sized riprap; and the planting of native shoreline vegetation along the shoreline. The analysis also assesses the environmental consequences of the no action alternative.

The Draft EA and a Draft Finding of No Significant Impact/Finding of No Practicable Alternative will be available for review beginning May 1, 2006 at the locations below. Comments should be submitted by May 31, 2006.

Poquoson Public Library	500 City Hall Avenue
Hampton Public Library	4207 Victoria Blvd
York County Public Library	100 Long Green Blvd
Bateman Library	42 Ash Avenue Langley AFB

To provide comment or acquire more information, please contact Mr. Matt Goss (matthew.goss@langley.af.mil). Written comments should be mailed to:

**1 CES/CEVQA
37 Sweeney Boulevard
Langley AFB, VA 23665-2107
ATTN: Matt Goss**



COMMONWEALTH of VIRGINIA

L. Preston Bryant, Jr.
Secretary of Natural Resources

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P. O. Box 10009, Richmond, Virginia 23240
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www.deq.virginia.gov

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

June 12, 2006

Mr. Matthew C. Goss
Environmental Analysis Program Manager
Headquarters, 1st Fighter Wing
1 CES/CEVQ
37 Sweeney Boulevard
Langley Air Force Base, Virginia 23665

RE: Draft Environmental Assessment and Federal Consistency Determination,
Shoreline Stabilization at Langley Air Force Base
DEQ-06-095F

Dear Mr. Goss:

The Commonwealth of Virginia has completed its review of the Draft Environmental Assessment and Federal Consistency Determination named above (hereinafter "Draft EA"). The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of federal environmental documents prepared pursuant to the National Environmental Policy Act and responding to appropriate federal officials on behalf of the Commonwealth. DEQ is also the lead agency for Virginia's review of federal consistency determinations and certifications submitted pursuant to the Coastal Zone Management Act and the Virginia Coastal Resources Management Program. The following agencies, regional planning district commission, and locality joined in this review:

Department of Environmental Quality
Department of Game and Inland Fisheries
Department of Conservation and Recreation
Marine Resources Commission
Department of Historic Resources
Hampton Roads Planning District Commission
City of Hampton

In addition, the Virginia Institute of Marine Science and the City of Poquoson were invited to comment.

Mr. Matthew C. Goss
Page 2

Project Description

The Air Force proposes to undertake several stabilization measures along the Back River waterfront at Langley Air Force Base. First, an old reinforced concrete seawall along Benedict Avenue would be replaced by installation of 3,000 feet of seawall, filter cloth, and appropriate tie-backs installed in the seawall. This wall would be placed channelward of the existing wall, which is a contributing historic property. The second project element would be removing concrete and road material along the shoreline, installing a geotextile liner, and re-using most of the concrete in a 2-foot-thick revetment. The shoreline would also be regraded. The third project element would involve planting cordgrass along the Back River shoreline, to establish approximately 3 acres of new wetlands. This element would also involve regrading to a 3:1 ratio for bank stabilization (30 feet wide, 600 feet long); the remaining 700 feet would be graded at 2:1, with a 15-foot width (EA, pages 2-1 through 2-4, section 2.1.1).

Environmental Impacts and Mitigation

1. *Natural Heritage Resources.* The Department of Conservation and Recreation (DCR) has searched its Biotics Data System for occurrences of natural heritage resources in the project area. "Natural heritage resources" are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations. DCR indicates that natural heritage resources have not been documented in the project area.

Under a memorandum of agreement with the Department of Agriculture and Consumer Services (VDACS), DCR represents VDACS in commenting on potential impacts of projects upon state-listed endangered and threatened plant and insect species. The proposed project will not affect any such species, according to DCR.

2. *Wildlife Resources.* The Department of Game and Inland Fisheries, as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state or federally listed endangered or threatened species, but excluding listed insects. The Department (hereinafter "DGIF") is a consulting agency under the U.S. Fish and Wildlife Coordination Act (16 U.S.C. sections 661 *et seq.*), and provides environmental analysis of projects or permit applications coordinated through the Department of Environmental Quality and several other state and federal agencies. DGIF determines likely impacts upon fish and wildlife

Mr. Matthew C. Goss
Page 3

resources and habitat, and recommends appropriate measures to avoid, reduce, or compensate for those impacts.

(a) *Findings and Recommendations.* The Department of Game and Inland Fisheries documents the presence or proximity of several species; its findings and recommendations follow. See also "Federal Consistency..." item 1, below.

(i) *Canebrake Rattlesnake.* The canebrake rattlesnake (listed by the State as an endangered species) has been documented in the project area, but not on the Air Force Base itself. Rather, the rattlesnake was noted in areas adjacent to the Southwest Branch, Back River, across the river from the Base. The photographs of the shoreline areas to be stabilized (see, for example, Figure 1-4, page 1-6 of the EA) suggest that suitable habitat for the canebrake rattlesnake does not exist in the work areas. Accordingly, DGIF does not anticipate that the project would give rise to significant adverse impacts upon this species.

(ii) *Northern Diamondback Terrapin.* The northern diamondback terrapin (listed as a species of concern by the federal government) is known to nest on sandy beaches and dunes, and to overwinter in muddy areas.

Project work in these areas of suitable habitat should be avoided between May and July of each year in order to protect this species. If sandy dunes and beaches are not found in the project area, then this time-of-year restriction is not necessary.

(iii) *Shore and Marsh Birds.* A number of shore and marsh birds, listed as State Special Concern species, are known in the project area. These include the great egret, the yellow-crowned night heron, glossy ibis, northern harrier, Forster's tern, least tern, and Caspian tern. Although some of these birds nest in trees, a few also use beaches, sand dunes, and marshes for nesting. These birds typically nest from April through July.

If any areas of dune, beach, or marsh suitable for nesting by these bird species are found within the project limits, such areas should be off limits to project work during the April-through-July nesting season mentioned above. If sandy dunes, beaches, and marshes are not found in the project areas, then this time-of-year restriction is not necessary.

(b) *Enhancing Marsh and Wetlands.* The Department of Game and Inland Fisheries supports the efforts of the Air Force to enhance and re-establish marsh and wetland areas as a part of this project. DGIF prefers re-establishment and

Mr. Matthew C. Goss
Page 4

enhancement, and remedies for shoreline erosion, as opposed to hardening of surfaces by installation of riprap and seawalls. DGIF also recommends that native grasses and forbs be used in the establishment and enhancement effort. In addition, the use of live stakes and vegetative matting is preferred for substrate stabilization.

3. *Erosion and Sediment Control; Stormwater Management.* Federal agencies and their authorized agents conducting regulated land-disturbing activities on public and private lands in the Commonwealth of Virginia must comply with the Virginia Erosion and Sediment Control Law (*Virginia Code* section 10.1-567) and its implementing regulations, the Virginia Stormwater Management Law (*Virginia Code* section 10.1-603.15) and its implementing regulations, and other applicable federal non-point source pollution control mandates such as section 313 of the Clean Water Act and the federal consistency requirements of the Coastal Zone Management Act (Title 15, Code of Federal Regulations, Part 930; see "'Federal Consistency...," below). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, or other structures, soil/dredge spoil areas, or related land conversion activities that disturb 2,500 square feet or more (in Chesapeake Bay Preservation Areas; the threshold is 10,000 square feet or more in other areas) are regulated by the Erosion and Sediment Control Law and its implementing regulations. Similar activities that disturb one acre or more are regulated by the Stormwater Management Law and its implementing regulations. Accordingly, the Air Force should prepare and implement Erosion and Sediment Control Plans and Stormwater Management Plans that comply with state law. The Air Force is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliance, and/or other mechanisms consistent with Air Force policy. The Air Force is encouraged to contact the Department of Conservation and Recreation to obtain plan development or implementation assistance so as to ensure project compliance during and after construction; see "Regulatory and Coordination Needs," items 2 and 3, below.

4. *Air Quality.* According to DEQ's Division of Air Program Coordination, the project area is a non-attainment area for ozone (O₃). Accordingly, the ANG should take all reasonable precautions to limit emissions of VOCs and NO_x, principally by controlling or limiting the burning of fossil fuels.

(a) *Fugitive Dust Control.* During construction, fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-40-5630 et seq. of the Regulations for the Control and Abatement of Air Pollution. These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and
- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

(b) *Open Burning.* If project activities include the burning of any material, this activity must meet the requirements of the Regulations for open burning (9 VAC 5-40-5600 et seq.), and it may require a permit (see "Regulatory and Coordination Needs," item 4, below). The Regulations provide for, but do not require, the local adoption of a model ordinance concerning open burning. The Air Force should contact appropriate city officials to determine what local requirements, if any, exist. The model ordinance includes, but is not limited to, the following provisions:

- All reasonable effort shall be made to minimize the amount of material burned, with the number and size of the debris piles;
- The material to be burned shall consist of brush, stumps and similar debris waste and clean-burning demolition material;
- The burning shall be at least 500 feet from any occupied building unless the occupants have given prior permission, other than a building located on the property on which the burning is conducted;
- The burning shall be conducted at the greatest distance practicable from highways and air fields;
- The burning shall be attended at all times and conducted to ensure the best possible combustion with a minimum of smoke being produced;
- The burning shall not be allowed to smolder beyond the minimum period of time necessary for the destruction of the materials; and
- The burning shall be conducted only when the prevailing winds are away from any city, town or built-up area.

5. *Solid and Hazardous Waste Management.* According to DEQ's Waste Division, both solid and hazardous waste issues were addressed adequately in the Draft EA. However, the Draft EA did not include a search of waste-related data bases.

(a) *Findings.* DEQ's Waste Division performed a cursory review of its data files and determined that the Air Force Base is listed three ways:

- As a facility subject to DEQ's Federal Facilities Installation Restoration Program (identification number VA2800005033);

Mr. Matthew C. Goss
Page 6

- As a Formerly Used Defense Site (identification number VA9799F1590); and
- As a RCRA (Resource Conservation and Recovery Act) small-quantity generator of hazardous waste (identification number VAD988222527).

The following web sites may be helpful in locating additional information about these identification numbers:

- http://www.epa.gov/echo/search_by_permit.html or
- http://www.epa.gov/enviro/html/rcris/rcris_query_java.html

(b) *Addressing Contamination.* Any soil suspected of contamination, or hazardous wastes that are generated by the project, must be tested and disposed of in accordance with applicable federal and state laws and regulations. The applicable laws and regulations include, but are not limited to, the Virginia Waste Management Act (*Virginia Code* sections 10.1-1400 *et seq.*), the Virginia Hazardous Waste Management Regulations (9 VAC 20-60), and the Virginia Solid Waste Management Regulations (9 VAC 20-80) (see enclosed DEQ memo, Brockman to Ellis, dated May 22, 2006 for additional references). Note that it is the generator's responsibility to determine whether a solid waste meets the criteria of a hazardous waste; if the criteria are met, the generator must manage the waste as a hazardous waste.

(c) *Pollution Prevention.* DEQ encourages the Air Force, in implementing this and other projects, to follow pollution prevention principles, including the reduction of solid wastes at the source, re-use of materials, and recycling of used materials to the maximum extent practicable.

6. *Environmental Restoration Program (ERP).* According to DEQ's Waste Division's Federal Facilities Restoration Program Office (DEQ-FFR), Langley Air Force Base is on the National Priorities List (NPL); the Air Force is the party responsible for remediation of CERCLA sites (i.e., sites listed under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended) on the Base in order for the Base to be removed from the NPL. The Langley Air Force Base Environmental Restoration Program (ERP) is charged with oversight of the CERCLA sites on the Base. DEQ-FFR has provided the following guidance on the proposed project's impact upon active and closed ERP sites.

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(a) *ERP Site Listings.* Several active or closed ERP sites are situated along, or immediately adjacent to, the shoreline stabilization project area. Beginning at the southern end of the project and following the Southwest Branch along the Base shoreline, they are:

- OT-06: Abandoned Entomology Site and Former Wastewater Treatment Plant -- Shellbank Area;
- LF-05: Abandoned Landfill -- Shellbank Area;
- SS-61: Old Civil Engineering Paint Shop Building 615 -- Marina Area
- OT-55: Civil Engineering Yard Underground Petroleum Contamination
- WP-02: Abandoned Wastewater Treatment Plant Building 724 -- HTA Area
- DP-66: Building 726 Septic Tank/Leach Field
- DP-67: Building 728/Septic Tank/Leach Field
- DP-68: Former Jet Engine Test Cell
- LF-22: Abandoned Landfill - Willoughby Point
- CB-69: Mile-Long Building.

In addition, the north end of the Mile-Long Building represents an on-shore reference point for the confluence of the Southwest Branch and the Northwest Branch of the Back River. At this point, the shoreline turns west. Three more ERP sites are found along the Northwest Branch shoreline:

- WP-08: Abandoned Wastewater Treatment Plant -- LTA Area
- OT-25: Old Entomology Building and Abandoned Pesticide/Herbicide Storage Area Building 965
- LF-17: Abandoned Landfill -- LTA Area.

In addition, there are two comprehensive ERP sites at the Base:

- SS-63: Back River Sediments, and
- OT-64: Basewide Ground Water.

(b) *Analysis.* The contamination present above and below ground, in the groundwater, and in sediment along or near the shoreline at these ERP sites varies from site to site. As an example, there is PCB/PCT contamination present in the near-shore sediments of the Southwest Branch of the Back River, and lead contamination in the sediments of the Northwest Branch of the Back River near site LF-17 in the LTA cove. Due to the natural dispersion of sediment during storm events, the existing shoreline stabilization material and sediment/soil

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beneath may contain elevated levels of those pollutants in those areas. According to DEQ-FFR, shoreline stabilization project workers may be exposed to those contaminants, and that exposure may present a human health risk.

The nature and extent of risk posed to project workers by contaminants present at each of the ERP sites should be determined before the project is initiated. Human health risk calculations have already been performed, and are available in each site's Remedial Investigation Report that may be found in the Base Environmental Restoration Program's Administrative Record. See "Regulatory and Coordination Needs," item 5(a), below

(c) *Removing Ineffective Shoreline Stabilization Material.* According to DEQ-FFR, the process proposed for removing ineffective shoreline stabilization material includes re-sizing and re-using some of the concrete as sub-base material beneath Class II VDOT (Virginia Department of Transportation) riprap. Re-sizing the existing concrete may generate waste material (bits of concrete, concrete dust, and rebar) requiring off-site disposal). As certain portions of the shoreline may be contaminated with lead or PCBs, special care should be taken when removing the existing material. The asphalt and other ineffective stabilization material that is to be disposed of off the Base must be sampled to determine whether exposure to contaminated sediments contaminated the material, thereby requiring contaminant-specific handling. (Lead is a RCRA waste and PCB/PCTs are a Toxic Substances Control Act waste.) If any sediment or shoreline soil must be removed, the act of removing it may constitute management of the material, making it subject to specific land disposal requirements (see item 5(b), above). Therefore, any removed sediment or soil must also be characterized to determine whether specific land disposal requirements apply.

(d) *Possibility of Wetlands Creation.* The EA indicates a possibility for wetlands creation associated with this project but implies that bird-aircraft strike hazards may impede such creation. The ERP is seeking areas where wetlands may be created. The project might be used to achieve combined goals of wetland creation, shoreline restoration, and safe flight activities. See "Regulatory and Coordination Needs, item 5(b), below.

7. *Wetlands and Water Quality.* According to DEQ's Tidewater Regional Office, a Joint Permit Application will be required for this project, in order to address impacts on wetlands and/or surface waters. The EA lacks detail on the wetland impacts of specific actions, notably on quantification of types of wetlands and the amount of impacts involved.

In general, DEQ recommends that stream and wetland impacts be avoided to the maximum extent practicable. If this cannot be achieved, the Air Force should minimize unavoidable impacts to the maximum extent practicable. Compensation for impacts that could not be avoided or minimized may be in order in the permitting process (see "Federal Consistency..." item 3 and "Regulatory and Coordination Needs," item 1(b), below). To minimize unavoidable impacts to wetlands and waterways, DEQ recommends the following practices:

- Operate machinery and construction vehicles outside of stream-beds and wetlands; use synthetic mats when in-stream work is unavoidable;
- Erosion and sedimentation controls should be designed in accordance with the most current edition of the *Virginia Erosion and Sediment Control Handbook* (available from the Department of Conservation and Recreation; see "Regulatory and Coordination Needs," item 2, below). These controls should be in place prior to clearing and grading, and maintained in good working order to minimize impacts to State waters. The controls should remain in place until the area is stabilized.
- Place heavy equipment, located in temporarily impacted wetland areas, on mats, geotextile fabric, or use other suitable measures to minimize soil disturbance, to the maximum extent practicable.
- Restore all temporarily disturbed wetland areas to pre-construction conditions and plant or seed with appropriate wetlands vegetation in accordance with the cover type (emergent, scrub-shrub, or forested). The Air Force should take all appropriate measures to promote re-vegetation of these areas. Stabilization and restoration efforts should occur immediately after the temporary disturbance of each wetland area instead of waiting until the entire project has been completed.
- Place all materials which are temporarily stockpiled in wetlands, designated for use for the immediate stabilization of wetlands, on mats, geotextile fabric in order to prevent entry into state waters. These materials should be managed in a manner that prevents leachates from entering state waters and must be entirely removed within thirty days following completion of that construction activity. The disturbed areas should be returned to their original contours, stabilized within thirty days following removal of the stockpile, and restored to the original vegetated state.
- All non-impacted surface waters within the project or right-of-way limits that are within 50 feet of any clearing, grading, or filling activities should be clearly flagged or marked for the life of the construction activity within that area. The project proponent should notify all contractors that these marked areas are surface waters where no

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activities are to occur.

- Measures should be employed to prevent spills of fuels or lubricants into state waters.

8. *Chesapeake Bay Preservation Areas.* The proposed project is subject to requirements governing the protection of Chesapeake Bay resources, including the enforceable policies of the Virginia Coastal Resources Management Program and also including intergovernmental agreements. The latter are discussed here; the former are discussed below ("Federal Consistency,..." item 6).

(a) *Obligations under the 1998 Federal Agencies' Chesapeake Ecosystem Unified Plan.* The 1998 Federal Agencies' Chesapeake Ecosystem Unified Plan requires the signatories, including the Department of the Air Force, to fully cooperate with local and state governments in carrying out voluntary and mandatory actions to comply with the management of stormwater. The agencies also committed themselves, in that *Plan*, to encourage construction design that accomplishes the following:

- a) minimizes natural area loss on new and rehabilitated federal facilities;
- b) adopts low-impact development and best management technologies for storm water, sediment and erosion control, and reduces impervious surfaces; and
- c) considers the Conservation Landscaping and Bay-Scapes Guide for Federal Land Managers.

(b) *Obligations under the Chesapeake 2000 Agreement.* In addition to the foregoing rules and agreements, the *Chesapeake 2000 Agreement* committed the signatory government agencies to a number of sound land use and stormwater quality controls. The state and federal agencies are to lead by example with respect to controlling nutrient, sediment and chemical contaminant runoff from government properties. In December 2001, the Executive Council of the Chesapeake Bay Program issued Directive No. 01-1, Managing Storm Water on State, Federal and District-owned Lands and Facilities, which includes specific commitments for agencies to lead by example with respect to stormwater control. See also "Federal Consistency...", item 6, below.

9. *Historic Structures and Archaeological Resources.*

(a) *Historic Structures.* The EA indicates that the existing seawall is a contributing element to the Langley Field Historic District (page 2-1,

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section 2.1.1). According to the Department of Historic Resources, which is the State Historic Preservation Office in Virginia, the project is within the Langley Air Force Base Historic District, which is eligible for listing on the National Register of Historic Places. The new seawall should be designed, therefore, in a manner that is in keeping with the architectural character of the historic resource.

(b) Archaeological Resources. Archaeological site 44HT10, the Sherwood Plantation, is located in the area behind the concrete seawall in the General Officers' Quarters area. Previous studies suggest, as well, that the entire seawall area retains moderate potential for archaeological deposits. As the Department of Historic Resources has indicated to the Air Force, it is unclear whether the area immediately adjacent to the seawall has been surveyed for archaeological resources. Additional archaeological investigation may be necessary if the proposed project would disturb areas not previously disturbed, and it cannot be demonstrated that the area has been surveyed.

The wetland buffer enhancement and the riprap replacement are proposed in areas with low archaeological potential, and do not require further study. However, the Department of Historic Resources seeks additional information on the amount of anticipated ground disturbance, and results of any previous archaeological studies. See "Regulatory and Coordination Needs," item 6, below.

10. Natural Area Preserves. According to the Department of Conservation and Recreation, there are no state Natural Area Preserves in the vicinity of the project.

11. Local and Regional Comments. According to the Hampton Roads Planning District Commission, following its consultation with the City of Hampton, the project is generally consistent with local and regional plans and policies. The Commission encourages the Air Force to provide reviewers with the Base's General Plan or other documentation that encompasses the environmental impacts associated with the large number of projects being pursued at the Base.

The City of Hampton reports that the project does not appear to conflict with the City's Comprehensive Plan. The City supports the Air Force's commitment to consider environmentally beneficial means of continued utilization of the Base.

Federal Consistency under the Coastal Zone Management Act

Pursuant to the Coastal Zone Management Act of 1972, as amended, federal activities located inside or outside of Virginia's designated coastal management area that can have reasonably foreseeable effects on coastal resources or coastal uses must, to the maximum extent practicable, be implemented in a manner consistent with the Virginia Coastal Resources Management Program (VCP). The VCP consists of a network of programs administered by several agencies. DEQ coordinates the review of federal consistency determinations with agencies administering the Enforceable and Advisory Policies of the VCP. The federal consistency determination for this project is provided in the Draft EA (Appendix B).

A public notice for this project review was published on DEQ's web site from May 11 through June 2, 2006. No comments were received.

Based on the information submitted and the comments of reviewing agencies, we concur that the proposed activity is consistent with the Virginia Coastal Resources Management Program (VCP), provided that the Air Force and its contractors comply with all applicable requirements and with the recommendations in this letter.

1. Fisheries Management. The Department of Game and Inland Fisheries finds the project consistent with the Fisheries Management enforceable policy of the VCP, provided that strict erosion and sediment controls are in place.

DGIF has a number of recommendations for work below ordinary high water (OHW) and for any in-stream construction work:

- Conduct in-stream activities during low-flow or no-flow conditions;
- Use non-erodible cofferdams to isolate the construction area, blocking no more than 50% of stream flow at any given time;
- Stockpile excavated material in a manner that prevents its re-entry into the stream;
- Restore original streambed and streambank contours;
- Re-vegetate barren areas with native vegetation; and
- Implement strict erosion control measures.

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2. *Subaqueous Lands Management.* If any part of the project involves any encroachment channelward of ordinary high water along natural rivers and streams, a permit may be required from the Marine Resources Commission pursuant to *Virginia Code* section 18.1-1204. In any case, replacement of the seawall and riprap below mean low water will require a permit from the Commission. See "Regulatory and Coordination Needs," item 1(a), below.

3. *Wetlands Management.* Tidal wetland enhancement may require a permit from the Hampton Wetlands Board, according to the Marine Resources Commission. See "Regulatory and Coordination Needs," item 1(a), below.

Similarly, the Joint Federal-State Permit Application (JPA) process will ensure that wetlands subject to DEQ regulation will be avoided, and impacts upon them minimized, to the greatest extent practicable. DEQ's Tidewater Regional Office indicates that the proposed project is consistent with this enforceable policy of the Virginia Coastal Resources Management Program, provided that the Virginia Water Protection Permit is obtained, through the JPA process, and followed. See "Regulatory and Coordination Needs," item 1(b), below.

4. *Non-point Source Pollution Control.* The Air Force is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliance, and/or other mechanisms consistent with Air Force policy. See "Regulatory and Coordination Needs," item 2, below.

5. *Air Pollution Control.* Fuel-burning equipment used in construction may require one or more types of air pollution control permits from DEQ. In addition, open burning of debris may require an open burning permit. See "Regulatory and Coordination Needs," item 4, below.

6. *Coastal Lands Management.* The EA states, "The proposed action, which occurs primarily on federal property, would as a matter of comity be conducted as much as possible so as to be consistent with the requirements of the Chesapeake Bay Preservation Act and Management Regulations" (page B-4). It may be technically true that Chesapeake Bay Preservation Areas are not locally designated on federal lands, but federal activities must be consistent with the Coastal Lands Management enforceable policy of the Virginia Coastal Resources Management Program. An explanation provided in cooperation with the Department of Conservation and Recreation's Division of Chesapeake Bay Local Assistance (DCR-DCBLA) follows. See "Environmental Impacts and Mitigation,"

item 8, above, for a discussion of intergovernmental agreement obligations pertaining to Chesapeake Bay protection.

(a) *Federal Consistency Obligations.* Pursuant to the Coastal Zone Management Act of 1972, as amended (CZMA), federal activities affecting Virginia's coastal resources or coastal uses must be consistent, to the maximum extent practicable, with the Virginia Coastal Resources Management Program (VCP) (see CZMA section 307(c)(1) and the Federal Consistency Regulations at 15 CFR Part 930, sub-part C).

The Coastal Lands Management program, one of the enforceable policies of the VCP, is a state-local cooperative program administered by DCR-DCBLA and 84 localities in Tidewater Virginia, and established pursuant to:

- the Chesapeake Bay Preservation Act (*Virginia Code* sections 10.1-2100 thru 10.1-2114) (Bay Act); and
- the Chesapeake Bay Preservation Area Designation and Management Regulations (*Virginia Administrative Code*, 9 VAC 10-20-10 et seq.) (Regulations).

Federal actions on installations located within Tidewater Virginia are required to be consistent with the performance criteria of the Regulations on lands analogous to locally designated Chesapeake Bay Preservation Areas (CBPAs). In Hampton, the areas protected by the Bay Act, as locally implemented and requiring stringent performance criteria (i.e., Resource Protection Areas) include:

- tidal wetlands;
- non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow;
- tidal shores; and
- a 100-foot vegetated buffer area located adjacent to and landward of the aforementioned features (analogous to Resource Protection Areas or RPAs) and along both sides of any water body with perennial flow.

Less stringent general performance criteria apply to the land contiguous to the 100-foot buffer for a distance of 100 feet in the landward direction (analogous to Resource Management Areas or RMAs).

For land disturbance activities over 2,500 square feet, the project must comply with the requirements of the *Virginia Erosion & Sediment Control Handbook* (Third Edition, 1992). In addition, stormwater management criteria

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consistent with water quality protection provisions (4 VAC 3-20-71 et seq.) of the *Virginia Stormwater Management Regulations* (4 VAC 3-20) must be satisfied.

Provided adherence with the Erosion and Sediment Control Law (*Virginia Code* sections 10.1-560 et seq.), the Virginia Stormwater Management Act (*Virginia Code* sections 10.1-603.1 et seq.) and the general performance criteria (9 VAC 10-20-120 et seq. in the *Regulations*), the project would be consistent with the *Chesapeake Bay Preservation Area Designation and Management Regulations*, which constitute the Coastal Lands Management enforceable policy of the Virginia Coastal Resources Management Program.

(b) *This Project.* The proposed shoreline stabilization will occur on lands analogous to RPAs, i.e., lands defined in the *Regulations* as requiring stringent performance criteria. Water-dependent activities, such as the proposed project, are allowed in RPAs, provided the activity in question complies with the following:

1. It meets the performance criteria in 9 VAC 10-20-120;
2. It does not conflict with the City of Hampton's comprehensive plan;
3. Any non-water-dependent component is located outside of areas analogous to Resource Protection Areas; and
4. Access to the water-dependent facility will be provided with the minimum disturbance necessary. Where practicable, a single point of access will be provided.

To meet the first of these requirements, an activity must be implemented in a manner consistent with the less stringent general performance criteria of the *Regulations*, 9 VAC 10-20-120 et seq., especially with respect to minimization of land disturbance, minimization of impervious surface, and preservation of indigenous vegetation. In addition, stormwater management criteria consistent with the water quality protection provisions (4 VAC 3-20-71 et seq.) of the *Virginia Stormwater Management Regulations* (4 VAC 3-20) must be satisfied. For land disturbance over 2,500 square feet, the project must comply with the requirements of the *Virginia Erosion & Sediment Control Handbook*, Third Edition, 1992.

Provided that the proposed project is implemented in accordance with the foregoing requirements, it would be consistent with the Bay Act and the *Chesapeake Bay Preservation Area Designation and Management Regulations*

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and hence with the Coastal Lands Management enforceable policy of the Virginia Coastal Resources Management Program.

Regulatory and Coordination Needs

1. Wetlands and Subaqueous Lands Regulation.

(a) *Tidal Wetlands and Subaqueous Lands.* As indicated above ("Federal Consistency..." items 2 and 3), seawall and riprap replacement will require a permit from the Marine Resources Commission, and encroachments channelward of ordinary high water may also require a permit. In addition, wetland enhancement may require a permit from the Hampton Wetlands Board. Questions on these permitting requirements may be addressed to the Commission (Elizabeth Gallup, telephone (757) 247-2200).

(b) *Wetlands and Surface Waters.* DEQ has permitting responsibilities for this project through its Virginia Water Protection Permit. The Air Force should contact DEQ's Tidewater Regional Office (Bert Parolari, telephone (757) 518-2166) for details on permit application with the Joint Federal-State Permit Application (JPA).

2. *Erosion and Sediment Control; Stormwater Management.* The Air Force may submit a draft plan or other preliminary information to the Department of Conservation and Recreation for review and assistance in identifying specific practices, regional strategies, and/or regulatory requirements that may apply to this project. Questions should be directed to the Department's Chowan, Albemarle, and Coastal Watersheds Office (Art Kirkby, telephone (757) 925-2468).

3. *VPDES Stormwater General Permit.* If land disturbance should equal or exceed 2,500 square feet, a VPDES Stormwater General Permit may be required. Inquiries on this requirement should be directed to the Department of Conservation and Recreation's Division of Soil and Water Conservation (Eric Capps, telephone (804) 786-3957).

4. *Air Quality Regulation.* In the event of open burning of debris, and in case the Air Force intends to use fuel-burning facilities for construction activities, permits will be required from DEQ's Tidewater Regional Office (Jane Workman, Air Permits Manager, telephone (757) 518-2112). Open burning is authorized pursuant to the Regulations for the Control and Abatement of Air Pollution (9 VAC 5-40-5600 *et seq.*). Construction machinery may require temporary permits under the new source review provisions of the Regulations (9 VAC 5-80-10

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et seq.), while other fuel-burning equipment may require more extensive permitting under new source review and other provisions.

5. Environmental Restoration Program.

(a) Administrative Record and Other Information. Access to the Base Environmental Restoration Program's Administrative Record (see "Environmental Impacts and Mitigation," item 6(b), above) is provided by the Langley Air Force Base Remedial Project Manager (John Tice, telephone (757) 764-1082, per Herman/Ellis, 6/7/06). DEQ-FFR recommends that the Air Force contact the Project Manager for information concerning CERCLA obligations at or near the proposed construction sites, prior to initiating any activities which would disturb land, sediment, or groundwater.

(b) Wetland Creation. DEQ recommends that the Air Force's Environmental Restoration Program work with other Base personnel (John Tice, as above) to achieve compatible creation of wetlands in connection with the shoreline restoration project.

6. Archaeological Survey Needs. The Department of Historic Resources reiterates its request for information on the amount of ground disturbance, and results of previous archaeological surveys (enclosed earlier letter dated October 25, 2005). Questions may be directed to the Department (Marc Holma, telephone (804) 367-2323, extension 114 or Roger Kirchen, same telephone, extension 153).

Thank you for the opportunity to review the Draft EA and federal consistency determination for this project. We look forward to reviewing the Final EA. If you have questions, please feel free to call me (telephone (804) 698-4325) or Charles Ellis of this Office (telephone (804) 698-4488).

Sincerely,



Ellie L. Irons
Program Manager
Office of Environmental Impact Review

Enclosures
cc: (next page)

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cc: Andrew K. Zadnik, DGIF
Harold J. Winer, DEQ-TRO
Allen R. Brockman, DEQ-Waste
Paul E. Herman, DEQ-Waste-FFR
Kotur S. Narasimhan, DEQ-Air
Scott A. Bedwell, DCR
Alice R. T. Baird, DCR-DCBLA
Elizabeth Gallup, MRC
David L. O'Neill, VIMS
Roger W. Kirchen, DHR
John M. Carlock, Hampton Roads PDC
James Freas, City of Hampton
Charles W. Burgess, Jr., City of Poquoson

Ellis, Charles

From: ProjectReview ProjectReview [ProjectReview.Richmond_PO.DGIF@dgif.virginia.gov]
Sent: Friday, June 02, 2006 10:36 AM
To: Ellis, Charles
Cc: John Kleopfer
Subject: ESSLog# 21277_06-095F, Shoreline Stabilization a Langley AFB

We have reviewed the Environmental Assessment prepared by DOD/U.S. Air Force for the subject project and offer the following comments and recommendations:

According to our records, State Endangered canebrake rattlesnake has been documented in the project area, but not on Langley AFB itself. These documentations are from areas adjacent to the Southwest Branch Back River across the river from the base. It appears, from the photographs of the shoreline areas to be stabilized, that suitable habitat for this species does not exist in the work areas. Therefore, we do not anticipate significant adverse impacts upon this species as a result of this project.

Also known from the project area is the Federal Species of Concern northern diamond-back terrapin. This species is known to nest on sandy beaches and dunes and to overwinter in muddy areas. We recommend that work in areas of suitable nesting habitat follow time of year restriction from May through July of any year. If sandy dunes and beaches are not found within the project areas, this time of year restriction is not necessary.

Further, a number of State Special Concern shore and marsh birds such as great egret, yellow-crowned night heron, glossy ibis, northern harrier, Forster's tern, least tern and Caspian tern are known from the project area. Although some of these birds nest in trees, a few also use beaches, dunes and marshes for nesting. These birds typically nest from April through July. As above, we recommend that if any areas of dune, beach or marsh suitable for these species to nest in are found within the project limits, these areas be restricted from work during the nesting season from April through July of any year. If sandy dunes, beaches and marshes are not found within the project areas, this time of year restriction is not necessary.

We support the efforts of the Air Force to enhance and re-establish marsh and wetland as part of this project. We prefer the re-establishment and enhancement of marshes and wetlands and remedies for shoreline erosion as opposed to hardening of surfaces by installation of rip rap and seawalls. We recommend that native grasses and forbes be used in the establishment and enhancement of such areas. We also promote the use of live stakes and vegetative matting for substrate stabilization.

As with any work below OHW, we recommend conducting any in-stream activities during low or no-flow conditions, using non-erodible cofferdams to isolate the construction area, blocking no more than 50% of the streamflow at any given time, stockpiling excavated material in a manner that prevents reentry into the stream, restoring original streambed and streambank contours, revegetating barren areas with native vegetation, and implementing strict erosion and sediment control measures.

Assuming strict erosion and sediment control measures are in place, this project appears to be consistent with the Fisheries Section of the Coastal Zone Management Act.

Thank you for the opportunity to review this project. We appreciate any effort to adhere to our recommendations and, in turn, to protect Virginia's wildlife resources. Please contact me if I can be of further assistance.

Amy Martin
amy.martin@dgif.virginia.gov

Virginia Department of Game and Inland Fisheries
Environmental Services Section
804-367-6913

L. Preston Bryant, Jr.
Secretary of Natural
Resources



Joseph H. Maroon
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

203 Governor Street, Suite 326
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(804) 786-2556 FAX (804) 371-7899

MEMORANDUM

DATE: June 2, 2006

TO: Mr. Charles H. Ellis, III
Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street, Sixth Floor
Richmond, Va. 23219
chellis@deq.state.va.us
(804) 698-4488

FROM: Robert Munson, Planning Bureau Manager
Virginia Department of Conservation and Recreation

SUBJECT: DEQ-06-095F: DOD/US Air Force – Langley AFB Shoreline Stabilization

The Department of Conservation and Recreation (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, natural heritage resources have not been documented in the project area. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

Under a Memorandum of Agreement, DCR represents the Virginia Department of Agriculture and Consumer Services in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

Additionally, our files do not indicate the presence of any State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

*State Parks • Soil and Water Conservation • Natural Heritage • Outdoor Recreation Planning
Chesapeake Bay Local Assistance • Dam Safety and Floodplain Management • Land Conservation*

The Virginia Department of Game and Inland Fisheries maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters, which may contain information not documented in this letter. Their database may be accessed from http://www.dgif.virginia.gov/wildlife/info_map/index.html, or contact Shirl Dressler at (804) 367-6913.

DCR's Division of Chesapeake Bay Local Assistance has reviewed the above referenced project and offers the following comments:

We have reviewed the Environmental Assessment/Consistency Determination for the proposed shoreline stabilization at Langley Air Force Base and have the following comments:

While it may be technically true in that Chesapeake Bay Preservation Areas are not locally designated on federal lands, this does not relieve the U.S. Air Force of its responsibilities to be consistent with the provisions of the *Chesapeake Bay Preservation Area Designation and Management Regulations* (Regulations), as one of the enforceable programs of Virginia's Coastal Resources Management Program (VCRMP). Federal Consistency is the CZMA requirement that Federal agency activities that have reasonably foreseeable effects on any land or water use or natural resource of the coastal zone (also referred to as coastal uses or resources and coastal effects) must be consistent to the maximum extent practicable with the enforceable policies of a coastal State's federally approved Coastal Management Program (CMP). Federal actions on installations located within Tidewater Virginia are required to be consistent with the performance criteria of the Regulations on lands analogous to locally designated Chesapeake Bay Preservation Areas.

In the City of Hampton, the areas protected by the Chesapeake Bay Act, as locally implemented requiring stringent performance criteria, include: tidal wetlands, non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or perennial water bodies, tidal shores and a 100-foot vegetated buffer area located adjacent to and landward of the aforementioned features (analogous to the Resource Protection Area – RPA). Less stringent performance criteria apply to the land that is contiguous to the 100-foot buffer for a distance of one hundred feet in the landward direction (analogous to the Resource Management Area – RMA).

The proposed shoreline stabilization will be occurring on lands analogous to those in the *Chesapeake Bay Preservation Area Designation and Management Regulations* requiring stringent performance criteria (Resource Protection Area or RPA). Water dependent activity, such as the proposed project, is allowed in this area provided the activity complies with the following:

1. It complies with the performance criteria set forth in 9 VAC 10-20-120;
2. It does not conflict with the City of Hampton's comprehensive plan;
3. Any non-water dependent component is located outside of those areas analogous to Resource Protection Areas; and
4. Access to the water-dependent facility will be provided with the minimum disturbance necessary. Where practicable a single point of access will be provided.

The general performance criteria, found in §9 VAC 10-20-120, include minimizing land disturbance, preserving indigenous vegetation, and minimizing impervious surfaces. Additionally, stormwater management criteria consistent with water quality protection provisions (§4 VAC 3-20-71 et seq.) of the *Virginia Stormwater Management Regulations* (§ 4 VAC 3-20) shall be satisfied, and **for land disturbance over 2,500 square feet**, the project must comply with the requirements of the *Virginia Erosion & Sediment Control Handbook*, Third Edition, 1992.

The 1998 Federal Agencies' Chesapeake Ecosystem Unified Plan requires the signatories, including the U. S. Air Force, to fully cooperate with local and state governments in carrying out voluntary and mandatory actions to comply with the management of stormwater. The agencies also committed to encouraging construction design that a) minimizes natural area loss on new and rehabilitated federal facilities; b) adopts low impact development and best management technologies for storm water, sediment and erosion control, and reduces impervious surfaces; and c) considers the Conservation Landscaping and Bay-Scapes Guide for Federal Land Managers. In addition, the Chesapeake 2000 Agreement committed the government agencies to a number of sound land use and stormwater quality controls. The signatories additionally committed the agencies to lead by example with respect to controlling nutrient, sediment and chemical contaminant runoff from government properties. In December 2001, the Executive Council of the Chesapeake Bay Program issued Directive No. 01-1, Managing Storm Water on State, Federal and District-owned Lands and Facilities, which includes specific commitments for agencies to lead by example with respect to stormwater control.

Provided adherence to the above requirements, the project would be consistent with the *Chesapeake Bay Preservation Act & Regulations*.

Thank you for the opportunity to comment on this project.

Sincerely,



Robert S. Munson
Planning Bureau Manager



COMMONWEALTH of VIRGINIA

L. Preston Bryant, Jr.
Secretary of Natural Resources

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P. O. Box 10009, Richmond, Virginia 23240
Fax (804) 698-4500 TDD (804) 698-4021
www.deq.virginia.gov

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

MEMORANDUM

RECEIVED

TO: Charles H. Ellis, III, Environmental Program Planner MAY 22 2006

FROM: *ARB* Allen Brockman, Waste Division Environmental Review Coordinator DEQ-Office of Environmental Impact Review

DATE: May 22, 2006

COPIES: Sanjay Thirunagari, Waste Division Environmental Review Manager; Paul Herman, file

SUBJECT: Environmental Assessment and Consistency Determination
DOD/Air Force—Shoreline Stabilization at Langley Air Force Base, DEQ
Project #06-095F

The Waste Division has completed its review of the Environmental Impact Assessment and Consistency Determination for shoreline stabilization at Langley Air Force Base in Hampton, Virginia. We have the following comments concerning the waste issues associated with this project:

Both solid and hazardous waste issues were addressed adequately in the report. However, the report did not include a search of waste-related data bases. The Waste Division staff performed a cursory review of its data files and determined that the facility is under DEQ's Federal Facilities Installation Restoration Program (VA2800005033), a Formerly Used Defense Site (VA9799F1590), and a RCRA small quantity generator of hazardous waste (VAD988222527). The following websites may prove helpful in locating additional information for these identification numbers: http://www.epa.gov/echo/search_by_permit.html or http://www.epa.gov/enviro/html/tcris/tcris_query_java.html. Paul Herman of DEQ's Federal Facilities Program reviewed the report and his memo, dated May 19, 2006, is attached.

Any soil that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. In addition, the hazardous waste storage facility must be managed in accordance with applicable Federal State, and local laws and regulations. Some of the applicable state laws and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-80); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*, and

the applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous materials, 49 CFR Part 107.

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Allen Brockman at (804) 698-4468.

MEMORANDUM

**DEPARTMENT OF ENVIRONMENTAL QUALITY - WASTE DIVISION
Federal Facilities Restoration Program
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240**

SUBJECT: Environmental Assessment – Langley Air Force Base – Shoreline Stabilization

TO: Allen Brockman

FROM: Paul E. Herman, P.E., FFR *PEH*

DATE: May 19, 2006

COPIES: File

The Langley Air Force Base report entitled *Draft Environmental Assessment for Shoreline Stabilization* dated May 2006 has been reviewed as requested by Allen Brockman, Waste Division Environmental Review Manager. The document presents the “No Action” alternative and the “Proposed Action” alternative. The shoreline to be impacted by the proposed stabilization project stretches along almost the entire length of shore frontage on the Northwest Branch and Southwest Branch of the Back River, from the mouth of Tide Mill Creek to the south around to Tabbs Point to the north.

Langley Air Force Base (LAFB) is on the National Priorities List (NPL) and is the party responsible for remediation of CERCLA sites on Base in order to be removed from the NPL. The LAFB Environmental Restoration Program (ERP) is charged with oversight of the CERCLA sites on Base. The Proposed Action alternative’s impact to active and closed ERP sites is the subject of this review.

The “Proposed Action” alternative is to replace an existing, deteriorated concrete seawall, remove ineffective shoreline stabilization material (old roadbed and concrete) and replace with an engineered shoreline stabilization system, and repair existing shoreline undercuts and rill erosion by installing wave attenuators/breakwaters and wetlands in a combined manmade/natural shoreline stabilization system.

Several active or closed ERP sites are situated along, or immediately adjacent to, the LAFB shoreline stabilization project area. Beginning at the southern end of the project and following the Southwest Branch along the LAFB shoreline, the ERP sites that are encountered are as follows; OT-06: Abandoned Entomology Site and Former Wastewater Treatment Plant – Shellbank Area, LF-05: Abandoned Landfill – Shellbank Area, SS-61: Old Civil Engineering Paint Shop Building 615 – Marina Area, OT-55: Civil Engineering Yard Underground Petroleum Contamination, WP-02: Abandoned Wastewater Treatment Plant Building 724 – HTA Area, DP-66: Building 726 Septic Tank/Leach Field, DP-67: Building 728 /Septic Tank/Leach Field, DP-68: Former Jet Engine Test Cell, LF-22: Abandoned Landfill – Willoughby Point, and CB-69: Mile Long Building.

Environmental Assessment – LAFB

Allan Brockman

Page 2

The north end of the Mile Long Building represents an on-shore reference point for the confluence of the Southwest Branch and the Northwest Branch of the Back River. At this point, the shoreline turns west. Three more ERP sites are found along the Northwest Branch shoreline; WP-08: Abandoned Wastewater Treatment Plant – LTA Area, OT-25: Old Entomology Building and Abandoned Pesticide/Herbicide Storage Area Building 965, and LF-17: Abandoned Landfill – LTA Area. In addition, there are two comprehensive ERP sites at LAFB; SS-63: Back River Sediments, and OT-64: Basewide Ground Water.

The contamination present above and below ground, in the groundwater, and sediment along or near the shoreline at these ERP sites varies from site to site. As an example, there is PCB/PCT contamination present in the near-shore sediments of the Southwest Branch of the Back River and lead contamination in the sediments of the Northwest Branch of the Back River near LF-17 in the LTA Cove. Due to the natural dispersion of sediment during storm events, the existing shoreline stabilization material and sediment/soil beneath may contain elevated levels of those pollutants in those areas. Shoreline stabilization project workers may be exposed to those contaminants and that exposure may present a human health risk.

The nature and extent of risk posed to project workers by contaminants present at each of the aforementioned ERP sites should be determined prior to initiation of this project. The human health risk calculations have already been performed and are available in each site's Remedial Investigation Report that may be found in the LAFB Environmental Restoration Program's Administrative Record. Access to the Administrative Record is provided by the LAFB Remedial Project Manager, Ms. Jeree Grimes.

The process proposed for removing ineffective shoreline stabilization material includes resizing and reusing some of the concrete as sub-base material beneath Class II VDOT riprap. The process of resizing the existing concrete may generate waste material that will require offsite disposal (bits of concrete, concrete dust, and rebar). As certain portions of the shoreline may be contaminated with lead or PCBs special care should be taken when removing the existing stabilization material. The asphalt and other ineffective shoreline stabilization material that is to be disposed off-base must be sampled to determine whether exposure to contaminated sediments caused the material to become contaminated thereby requiring contaminant specific (lead is a RCRA hazardous waste and PCB/PCTs are a TSCA waste) handling and disposal requirements. And, should any sediment or shoreline soil be removed as part of this project, the act of removing contaminated sediment/soil from its natural state may constitute management of the material and make it subject to specific land disposal requirements. Therefore, any removed sediment/soil must also be characterized to determine if specific land disposal requirements apply.

Environmental Assessment – LAFB
Allan Brockman
Page 3

Finally, prior to beginning the shoreline stabilization project, LAFB should be certain their ERP program is aware of the potential for wetlands to be created by this project. The ERP program is searching for areas where wetlands may be created and this project is proposing to create new wetlands. By working together, each programs goal could be achieved.

The Federal Facilities Restoration Program recommends the facility contact Ms. Jeree Grimes, LAFB Environmental Restoration at (757) 764-1104, for information concerning the CERCLA obligations at or near the proposed construction sites prior to initiating any land, sediment, or ground water disturbing activities.

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR PROGRAM COORDINATION

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY

TO: Charles H. Ellis III

DEQ - OEIA PROJECT NUMBER: 06 - 095F

PROJECT TYPE: ☐ STATE EA / EIR / FONSI ☒ FEDERAL EA / EIS ☐ SCC

☒ X CONSISTENCY DETERMINATION

RECEIVED

PROJECT TITLE: SHORELINE STABILIZATION AT LANGLEY AIRFORCE BASE

MAY 19 2006

PROJECT SPONSOR: DOD / U. S. AIR FORCE

DEQ-Office of Environmental
Impact Review

PROJECT LOCATION: ☒ X OZONE NON ATTAINMENT AREA

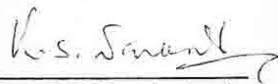
REGULATORY REQUIREMENTS MAY BE APPLICABLE TO: ☒ X CONSTRUCTION
☐ OPERATION

STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:

1. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E - STAGE I
2. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 F - STAGE II Vapor Recovery
3. ☐ 9 VAC 5-40-5490 et seq. - Asphalt Paving operations
4. ☒ X 9 VAC 5-40-5600 et seq. - Open Burning
5. ☒ X 9 VAC 5-50-60 et seq. Fugitive Dust Emissions
6. ☐ 9 VAC 5-50-130 et seq. - Odorous Emissions; Applicable to _____
7. ☐ 9 VAC 5-50-160 et seq. - Standards of Performance for Toxic Pollutants
8. ☐ 9 VAC 5-50-400 Subpart _____, Standards of Performance for New Stationary Sources, designates standards of performance for the _____
9. ☐ 9 VAC 5-80-10 et seq. of the regulations - Permits for Stationary Sources
10. ☐ 9 VAC 5-80-1700 et seq. Of the regulations - Major or Modified Sources located in PSD areas. This rule may be applicable to the _____
11. ☐ 9 VAC 5-80-2000 et seq. of the regulations - New and modified sources located in non-attainment areas
12. ☐ 9 VAC 5-80-800 et seq. Of the regulations - Operating Permits and exemptions. This rule may be applicable to _____

COMMENTS SPECIFIC TO THE PROJECT:

Being in an area of ozone non-attainment, all precautions are necessary to restrict the emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx) during construction.


(Kotur S. Narasimhan)
Office of Air Data Analysis

DATE: May 19, 2006

Ellis, Charles

From: Winer, Harold
Sent: Tuesday, May 23, 2006 11:26 AM
To: Ellis, Charles
Cc: Parolari, Bert
Subject: EIR #06-095F, Shoreline Stabilization at Langley Air Force Base

As requested, TRO staff has reviewed the supplied information and has the following comments:

Regarding VWP issues, we have reviewed this document from the perspective of the Virginia Water Protection Permit Program and note that there will be temporary and/or permanent impacts to surface waters and or wetlands associated with the preferred alternative. However, much of the detail associated with specific actions is missing including specific quantification of types and amounts of impacts. It is clear that a Joint Permit Application will be required and that permits or other authorization from the DEQ VWP program will be required. The VWP permit review process will ensure that impacts under the purview of our program have been avoided and minimized to the greatest extent practicable. Provided that all necessary permits are obtained and complied with, the project will be consistent with our program requirements.

Thanks for the opportunity to comment.

Harold J. Winer
Deputy Regional Director
Virginia DEQ, Tidewater Regional Office
Phone: 757-518-2153/Fax: 757-518-2003
Email: hjwiner@deq.virginia.gov

5/23/2006


If you cannot meet the deadline, please notify CHARLIE ELLIS at 804/698-4488 prior to the date given. Arrangements will be made to extend the date for your review if possible. An agency will not be considered to have reviewed a document if no comments are received (or contact is made) within the period specified.

REVIEW INSTRUCTIONS:

- A. Please review the document carefully. If the proposal has been reviewed earlier (i.e. if the document is a federal Final EIS or a state supplement), please consider whether your earlier comments have been adequately addressed.
- B. Prepare your agency's comments in a form which would be acceptable for responding directly to a project proponent agency.
- C. Use your agency stationery or the space below for your comments. IF YOU USE THE SPACE BELOW, THE FORM MUST BE SIGNED AND DATED.

Please return your comments to:

MR. CHARLES H. ELLIS III
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL IMPACT REVIEW
629 EAST MAIN STREET, SIXTH FLOOR
RICHMOND, VA 23219
FAX #804/698-4319


CHARLES H. ELLIS III
ENVIRONMENTAL PROGRAM PLANNER

COMMENTS

Please be advised that the Marine Resources Commission, pursuant to Section 28.2-1204 of the Code of Virginia, has jurisdiction over any encroachments in, on, or over any State-owned rivers, streams, or creeks in the Commonwealth. Accordingly, if any portion of the subject projects involves any encroachments channelward of ordinary high water along natural rivers and streams, a permit may be required from our agency.

Any replacement of the seawall and riprap below mean low water will require a permit from this agency. Wetland enhancement may require a permit from the Hampton Wetlands Board.

(signed) E. J. Tallon (date) 5/30/06
(title) Environmental Engineer
(agency) Marine Resources Commission

PROJECT # 06-095F

8/98


If you cannot meet the deadline, please notify CHARLIE ELLIS at 804/698-4488 prior to the date given. Arrangements will be made to extend the date for your review if possible. An agency will not be considered to have reviewed a document if no comments are received (or contact is made) within the period specified.

REVIEW INSTRUCTIONS:

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- B. Prepare your agency's comments in a form which would be acceptable for responding directly to a project proponent agency.
- C. Use your agency stationery or the space below for your comments. IF YOU USE THE SPACE BELOW, THE FORM MUST BE SIGNED AND DATED.


Please return your comments to:

→ MR. CHARLES H. ELLIS III
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL IMPACT REVIEW
629 EAST MAIN STREET, SIXTH FLOOR
RICHMOND, VA 23219
FAX #804/698-4319


CHARLES H. ELLIS III
ENVIRONMENTAL PROGRAM PLANNER

COMMENTS

Please request that Air Force continue to consult with us directly pursuant Section 106 of the National Historic Preservation Act and provide for our review the information requested by our letter of October 25, 2005 (see attached).

(signed)  (date) 6-2-06
(title) ARCHAEOLOGIST
(agency) DAR (FILE # 2005-1480)

PROJECT # 06-095F

8/98

06/02/2006 11:02 8043672391 DEPT OF HISTORIC RES PAGE 01/02



COMMONWEALTH of VIRGINIA

W. Taylor Murphy, Jr.
Secretary of Natural Resources

Department of Historic Resources
2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
TDD: (804) 367-2386
www.dhr.virginia.gov

October 25, 2005

Mr. Matthew C. Goss
1 CES/CEV
37 Sweeney Boulevard, Langley Air Force Base
Hampton, Virginia 23665-2107

Re: Proposed Shoreline Stabilization Initiative
Langley Air Force Base
Hampton, Virginia
DHR File No. 2005-1480

Dear Mr. Goss:

We have received your request for our review and comment regarding the above referenced project. It is our understanding that the Air Force proposes to undertake shoreline stabilization by replacing the existing reinforced concrete seawall along Benedict Avenue in the General Officer Quarters area at Langley Air Force Base located in Hampton, Virginia. The project is within the boundary of the National Register of Historic Places-eligible Langley Air Force Base Historic District. Therefore, the new seawall should be designed in a manner that is in keeping with the architectural character of the historic resource. Please provide the Department of Historic Resources (DHR) the design plans for the new seawall for our review and comment.

Our records indicate that archaeological site 44HT10, the Sherwood Plantation, is located in the area behind the concrete seawall in the General Officer Quarters area. Also, previous studies suggest that the entire seawall area retains moderate potential for archaeological deposits. It is unclear from our records whether the area immediately adjacent to the seawall has been subjected to archaeological survey. If the repair and/or replacement of the seawall will result in ground disturbance of areas not previously disturbed by similar activities and it cannot be demonstrated that the area has been surveyed, then additional archaeological investigations may be necessary. Please provide additional information on the amount of anticipated ground disturbance and results of any previous archaeological studies. The remaining elements of this proposed project, the wetland buffer enhancement and the rip-rap replacement, are taking place in areas determined to have low archaeological potential and no further studies of these areas are warranted.

If you have any questions about the Section 106 review process or our comments, please call me at (804) 367-2323, Ext. 114.

Sincerely,


Marc Holma, Architectural Historian
Office of Review and Compliance

Administrative Services
10 Courthouse Avenue
Petersburg, VA 23803
Tel: (804) 863-1624
Fax: (804) 862-6196

Capital Region Office
2801 Kensington Ave.
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

Tidewater Region Office
14415 Old Courthouse Way, 2nd Floor
Newport News, VA 23608
Tel: (757) 886-2807
Fax: (757) 886-2808

Roanoke Region Office
1030 Penmar Ave., SE
Roanoke, VA 24013
Tel: (540) 857-7585
Fax: (540) 857-7588

Winchester Region Office
107 N. Kent Street, Suite 203
Winchester, VA 22601
Tel: (540) 722-3427
Fax: (540) 722-7535

PAGE 02/02

DEPT OF HISTORIC RES

8043672391

06/02/2006 11:02



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JUN 02 2006

JEANNE ZEIDLER, CHAIR • PAUL D. FRAM, VICE CHAIRMAN • ARTHUR L. COLLINS, EXECUTIVE DIRECTOR/SECRETARY
DEQ Office of Environmental Impact Review

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Debbie Ritter, Council Member

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Bruce C. Goodson, Chairman
Sanford B. Wanner, County Administrator

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Randy W. Hildebrandt, City Manager

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Regina V.K. Williams, City Manager
Barclay C. Winn, Council Member
W. Randy Wright, Council Member

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Jeanne Zeidler, Mayor

YORK COUNTY

James O. McReynolds, County Administrator
Thomas G. Shepperd, Jr., Board Member

May 31, 2006

Mr. Charles H. Ellis III
Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street, Sixth Floor
Richmond, Virginia 23219

Re: Shoreline Stabilization at Langley Air Force Base
DEQ 06-095F (ENV:GEN)

Dear Mr. Ellis:


Pursuant to your request of May 3, 2006, the staff of the Hampton Roads Planning District Commission has reviewed the Environmental Assessment and Consistency Determination for the implementation of shoreline stabilization initiatives at several locations along the Back River at Langley Air Force Base. We have contacted the City of Hampton regarding the project.

Based on this review, the project is generally consistent with local and regional plans and policies. As in the past, we encourage the applicant to provide reviewers with copies of the Langley AFB General Plan or other documentation that encompasses all the environmental impacts associated with the large number of projects being pursued at this base.

In addition, the City of Hampton has submitted additional comments to you in a separate letter. We concur with their comments.

We appreciate the opportunity to review this project. If you have any questions, please do not hesitate to call.

Sincerely,


Arthur L. Collins
Executive Director/Secretary

MLJ:fh

Attachment

Copies: Mr. James Freas, HA

HEADQUARTERS • THE REGIONAL BUILDING • 723 WOODLAKE DRIVE • CHESAPEAKE, VIRGINIA 23320 • (757) 420-8300
PENINSULA OFFICE • 2101 EXECUTIVE DRIVE • SUITE C • HAMPTON, VIRGINIA 23666 • (757) 262-0094



City of Hampton

RECEIVED

MAY 13 2006

DEQ-Office of Environmental
Impact Review

MAY 16, 2006

Charles H. Ellis III
Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street, Sixth Floor
Richmond, VA 23219

**Re: Comment on draft Environmental Assessment -
Shoreline Stabilization
Langley Air Force Base, Virginia
Project number - 06-095F**

Dear Mr. Ellis:

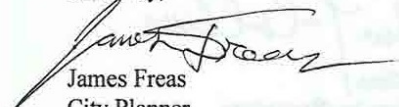
Planning staff has received and reviewed the draft Environmental Assessment (EA) for the shoreline stabilization project at Langley Air Force Base (LAFB), Virginia. The project entails a combination of rip rap replacement, seawall replacement, and native marsh re-establishment.

The project scope does not appear to impact the site significantly with respect to land use resources, water resources, air quality, noise, or hazardous materials. In addition, the project does not appear to be in conflict with the City's Comprehensive Plan.

The City supports the commitment by LAFB to continue to look for and consider environmentally beneficial means of achieving their goals for the continued utilization of Langley Air Force Base. The City appreciates LAFB's work towards improving the Chesapeake Bay and looks forward to possible future collaborations in this area.

Please let me know if I can be of further assistance regarding this project (728.5233 or jfreas@hampton.gov).

Sincerely,


James Freas
City Planner
City of Hampton

PLANNING DEPARTMENT (757) 727-6140 FAX: (757) 728-2449
ONE FRANKLIN STREET, SUITE 603, HAMPTON, VIRGINIA 23669-3522

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APPENDIX B
FEDERAL AGENCY COASTAL ZONE MANAGEMENT
ACT (CZMA) CONSISTENCY DETERMINATION

INTRODUCTION

This document provides the Commonwealth of Virginia with the U.S. Air Force's Consistency Determination under CZMA Section 307 and 15 C.F.R. Part 930 sub-part C. The information in this Consistency Determination is provided pursuant to 15 C.F.R. Section 930.39.

Pursuant to Section 307 of the Coastal Zone Management Act, 16 U.S.C. § 1456, as amended, its implementing regulations at 15 C.F.R. Part 930, this is a Federal Consistency Determination for activities described within the Environmental Assessment for implementation of various shoreline stabilization projects at Langley Air Force Base, Virginia (Chapter 2.0 of the document).

Proposed Federal Agency Action

The proposed action of the EA is the implementation of various shoreline stabilization projects at Langley Air Force Base (AFB), Virginia.

The Air Force has evaluated the Proposed Action and No Action Alternative for potential effects to the land or water uses or natural resources of the Commonwealth's coastal zone within the context of the statutes listed in the Virginia Coastal Resources Management Program.

Federal Consistency Review

Statutes addressed as part of the Virginia Coastal Resources Management Program consistency review and considered in the analysis of the proposed action are discussed in the following table.

<i>Statute</i>	<i>Scope</i>	<i>Consistency</i>
<i>Fisheries Management</i> Virginia Administrative Code 28.2-200 to 28.2-713 (Virginia Marine Resources Commission) and 29.1-100 to 29.1-570 (Department of Game and Inland Fisheries)	Stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities.	Fisheries would not be affected by the proposed action.
<i>Subaqueous Lands Management</i> Virginia Administrative Code Section 28.2-1200 to 28.2-1213	Establishes the conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, wetlands, adjacent or nearby properties, anticipated public and private benefits and water quality standards established by the Virginia Department of Environmental Quality.	Applicable permits would be obtained for placement of riprap and planting of wetlands within waters of the Commonwealth.
<i>Wetlands Management</i> Virginia Administrative Code Section 28.2-1301 to 28.2-1320 (Marine Resources Commission) and 62.1-44.15.5 and Section 401 of the Clean Water Act (Department of Environmental Quality)	Preserves tidal wetlands, prevent their destruction, and accommodates economic development in a manner consistent with wetlands preservation. Also, establishes a Water Quality Certification program consistent with Section 401 of the Clean Water Act.	The proposed action would enhance the wetlands management program associated with the Virginia Coastal Zone Management Program.
<i>Dunes Management</i> Virginia Code 28.2-1400 through 28.2-1420 (Marine Resources Commission)	Provides for protection of primary dunes as contained in the Coastal Primary Sand Dune Protection Act.	The proposed project would not adversely affect beach and shore management, nor impact any primary dunes as defined by the Coastal Primary Sand Dune Act. There are no sand-covered beaches or sand dunes in the vicinity of this project.

<i>Statute</i>	<i>Scope</i>	<i>Consistency</i>
<i>Non-point Source Pollution Control</i> Virginia Code Sections 28.2-1400 to 28.2-1420 (Department of Conservation and Recreation)	Requires soil disturbing activities be designed to reduce soil erosion and to decrease inputs of chemical nutrients into state waters.	The proposed action would result in minor soil erosion and increases in turbidity from soil erosion. Best management practices for preventing and controlling erosion would be necessary and are described in Chapter 4.0 of the document.
<i>Point Source Pollution Control</i> Virginia Code 62.1-44.15 (State Water Control Board)	Point source water pollution control is accomplished by implementation of the National Pollutant Discharge Elimination System (NPDES) permit Program pursuant to Section 402 of the Clean Water Act. Administered in Virginia as the VPDES Permit Program.	No point source discharges into surface water or effects to public drinking water supplies would occur from the proposed action.
<i>Shoreline Sanitation</i> Virginia Code Sections 32.1-164 through 32.1-165 (Virginia Department of Health)	Regulates the installation of septic tanks, sets standards concerning soil types suitable for septic tanks, and specifies minimum distances for placement from streams, rivers and other state waters.	Installation of septic tank systems is not contained in this proposal. All sanitary sewage would be routed to an on-base central sewage collection system and treated at the Hampton Roads Sanitation District's regional wastewater treatment facility.
<i>Air Pollution Control</i> Virginia Code Section 10-1.1300 (State Air Pollution Control Board)	Implements the federal Clean Air Act to provide the legally enforceable State Implementation Plan for the attainment of the National Ambient Air Quality Standards.	The proposed action would not result in significant air emissions.

<i>Statute</i>	<i>Scope</i>	<i>Consistency</i>
<i>Coastal Lands Management</i> Virginia Code Sections 10.1-2100 and Virginia Administrative Code 10-20-10 et seq. (Chesapeake Bay Local Assistance Department and 84 localities in Tidewater, Virginia)	A state-local cooperative program pursuant to the Chesapeake Bay Preservation Act and Chesapeake Bay Preservation and Management Regulations to regulate activities in the Chesapeake Bay Resource Management Areas. The main goal of this program is protect and restore coastal resources, habitats, and species of the Commonwealth. These include, but are not limited to, wetlands, subaqueous lands and vegetation, sand dune systems, barrier islands, underwater or maritime cultural resources, riparian forested buffers, and endangered or threatened species.	The proposed action, which occurs primarily on federal property, would as a matter of comity, be conducted as much as possible so as to be consistent with the requirements of the Chesapeake Bay Preservation Act and Management Regulations.